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A Cross-Validation of easyCBM Mathematics Cut Scores in Washington State: 2009-2010 Test

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Abstract

In this technical report, we document the results of a cross-validation study designed to identify optimal cut-scores for the use of the easyCBM® mathematics test in the state of Washington. A large sample, randomly split into two groups of roughly equal size, was used for this study. Students' performance classification on the Washington state test was used as the criterion. Optimal cut scores were examined for each group. Results indicate quite stable cut scores across groups. Further, the overall area under the ROC curve (AUC) was not statistically different between groups for any measurement occasion at any grade, providing strong evidence of the validity of the cut scores as optimal to predict student performance on the Washington statewide large-scale assessment.

A Cross-Validation of easyCBM Mathematics Cut Scores in Washington State: 2009-2010 Test

In this technical report, we present the results of a cross-validation study examining the diagnostic efficiency of easyCBM®. Anderson, Alonzo, and Tindal (2010) used a large sample in Washington to establish optimal cut scores for predicting state test performance classification (not passing/passing). The current study extends the Anderson, Alonzo, and Tindal results by randomly separating the same sample into two groups and examining the optimal cut points on easyCBM® for each group. The stability of the optimal cut points across the randomly selected groups provides evidence to support the specified cut points for predicting state test classification in Washington.

Theoretical Framework

The development of the easyCBM® math measures began in 2008. By 2009, 33 test forms at each of grades K-8 were fully operational and accompanied the existing reading measures available as part of an online assessment system. The measures were developed specifically for use within a response to intervention (RTI) framework. Within RTI, students are administered benchmark screening assessments periodically throughout the year. From these benchmark assessments, students are classified into tiers of instruction based on normative cut points. For instance, a district using easyCBM® may designate students scoring at or below the 20th percentile to be classified as “at-risk.” Students classified as at-risk are then provided with some sort of academic intervention and their progress is monitored with frequent administration of easyCBM® progress monitoring assessments. The easyCBM® system has three designated benchmark screeners, typically administered during the fall, winter, and spring. The 30

remaining forms are designated for monitoring the progress of students receiving an intervention between benchmark administrations.

Although ostensibly low-stakes in nature, perhaps the most critical form among the easyCBM® math forms is the fall benchmark screener. The results from the fall benchmark are used to initially classify students into instructional tiers, from which two types of errors can occur: false positives and false negatives. A false positive occurs when the benchmark screener falsely identifies the student as being at-risk, while a false negative occurs when the screener falsely identifies the student as *not* being at risk. From an instructional standpoint, and within the RTI model, false negatives are of far greater concern than false positives. Students who are not identified as at-risk in the fall are provided only typical grade-level instruction and are not screened again until winter. In other words, when a false negative occurs, the student may be excluded from a potentially valuable intervention for months, unless teacher judgment or a separate measure deems the student at-risk. In contrast, false positives result in providing additional academic services to students who are not necessarily in need. From a resource standpoint, providing additional services to students not in need can be a significant concern. However, students receiving the additional support are also administered additional progress monitoring measures. Thus, students who are not in need of the additional support will likely be identified as such over the course of the progress monitoring administrations.

Given the potential impact of the instructional decisions being made based on performance on the benchmark measures, it is important to carefully scrutinize any potential cut score educators may use with easyCBM® for identifying students as at-risk. However, establishing which students are *truly* at-risk is difficult at best. Simply put, the at-risk designation is nebulous, frequently ill-defined, and often has a different meaning from person to person. For

instance, one teacher may determine students to be at-risk if they come from an unstable home environment, regardless of their academic aptitude, influenced perhaps by research reporting on risk factors associated with different demographics such as participation in a subsidized meal program or low parental education such as Sirin's (2005) meta-analysis of 74 independent samples. At the same time, another teacher may determine students to be at-risk or not purely from an academic standpoint, regardless of other risk factors the students may have in their lives. For the purpose of this study, we use the latter approach, with state test performance serving as the criterion.

We examine raw score cut points on easyCBM® benchmarks and determine how well each predicts performance-level classification on the state test. In an earlier study, Anderson, Alonzo, and Tindal (2010) established raw score cut points for districts using easyCBM® in the state of Washington, and we extend this work by conducting a cross-validation study to explore the stability of the optimal cut scores when the sample is randomly split into two similar groups. Therefore, we examine and report only the diagnostic efficiency information obtained from the receiver operating characteristics (ROC) curve analysis (including the ROC curve figure, area under the curve statistics, and sensitivity and specificity of each cut score), and not other classification statistics such as the positive and negative predictive power, or overall correct classification rate. Readers are referred to Anderson et al.'s (2010) study for this information.

Methods

Setting and Subjects

Three districts participated in this study. The demographics and number of students in the full sample are reported by grade level and district in Table 1. The participating districts implemented a district-wide response to intervention (RTI) program. As part of this program, all

students, including English language learners and/or students with learning disabilities, participated in seasonal easyCBM® benchmark screeners. All students present on the days of testing were included in the study.

Measures

Scores from two assessments were used in this study: the easyCBM® math fall, winter, and spring benchmarks in grades 3-8 and the Measures of Student Progress (MSP), Washington's state test used for accountability purposes. All easyCBM® forms were written to align to one of three National Council of Teachers of Mathematics (NCTM) Focal Point Standards, displayed in Table 2, and scaled and equated with a 1 PL Rasch model. For full information on the development of the easyCBM® math measures, see Alonzo, Lai, and Tindal (2009a, 2009b), and Lai, Alonzo, and Tindal (2009a, 2009b, 2009c, 2009d). For information on the technical adequacy of easyCBM® math, including analyses on within-year growth estimates; year-end benchmark performance; internal and split-half reliabilities; reliability of the slope estimates; construct, concurrent, and predictive validity analyses; and predictive validity of the slope estimates; see Nese, Lai, Anderson, Jamgochian et al. (2010). For information on the alignment of the items to the NCTM Focal Point standards, see Nese, Lai, Anderson, Park et al. (2010).

The MSP was newly implemented in the state of Washington for the 2009-2010 school year. Previously, Washington had administered the Washington Assessment of Student Learning, a longer test that was limited to paper pencil format. According to the Washington Department of Education, the MSP will eventually be a computer administed assessment; however, because this was the first year the assessment was administered, only about 25% of students in grades 6-8 were administered the assessment by computer. The state plans to move to a fully computer

administered test within 2-3 years. The MSP includes multiple-choice and short answer item types. Based on their scores on the MSP, students are classified into four performance classifications: *below basic*, *basic*, *proficient*, and *advanced*. When producing optimal cut scores for easyCBM®, these categories were collapsed into a dichotomous classification of either *meeting* (which includes the performance classifications of *proficient* and *advanced*) or *not meeting* (classifications of *below basic* and *basic*).

Data Analyses

We randomly split the sample into two groups using the Bernouilli random value function in SPSS 18.0, by which each case is randomly assigned a value from a Bernouilli distribution based on the specified probability parameter. The probability parameter was set to 0.5, giving each case an equal probability of being in either group. We then conducted a series of *t*-tests with various student subgroups to determine whether the number of students from a particular subgroup differed significantly between the randomly selected groups. In addition, we conducted *t*-tests with each measure used in the study to determine if students' achievement on the easyCBM® measures or classification on the MSP differed significantly between groups. For these *t*-tests, we analyzed comparability of the sample splits based on ten student subgroup categories: seven for ethnicity (American Indian/Alaskan Native, Asian/Pacific Islander, Black, Hispanic, White, Multiethnic, and Decline to Identify) and one for each of Special Education; English Language Learner; and economically disadvantaged students (determined by free or reduced priced lunch eligibility).

When *t*-test results indicated that the randomly selected groups were comparable, we conducted a ROC analysis at each grade for each randomly selected half of the sample. We examined the overall area under the ROC curve (AUC) for comparability between the groups,

with respect to a 95% confidence interval. Overlapping confidence intervals indicated a non-significant difference between the randomly selected groups. We then evaluated the sensitivity and specificity of each cut score and chose an optimal cut score for each group, using the same approach described in the study by Anderson, Alonzo, and Tindal (2010).

These decision rules applied a slightly modified version of the decision rules outlined by Silberglitt and Hintze (2005). Silberglitt and Hintze aimed to maximize both sensitivity and specificity, but placed an increased emphasis on sensitivity. When determining an optimal cut score, they suggest the researcher:

> (a) determine the cut score(s) that yield at least 0.7 for sensitivity and specificity; (b) if possible, increase sensitivity from this point, continuing upward while still maintaining specificity of 0.7, stopping if sensitivity exceeds 0.8; (c) if sensitivity exceeds 0.8 and specificity can still be increased, continue to maximize specificity (while maintaining sensitivity of 0.8); and (d) if both sensitivity and specificity exceed 0.8, repeat steps 2 and 3, using 0.9 as the next cutoff (p. 316).

We felt that if both sensitivity and specificity could be above 0.8, that cut score would be the best option. However, if no cut score resulted in both sensitivity and specificity being above 0.8, sensitivity was maximized as much as possible while keeping specificity above 0.7, even if a different cut score would have resulted in both statistics being close to 0.8. These modified rules placed a further emphasis on sensitivity, which we felt was warranted given the importance of reducing false negatives in an RTI model.

Results

We present results for each of the randomly selected groups in two distinct sections. The first section contains the results of all analyses conducted when the sample was randomly

separated into two groups. Results are presented by grade and include (a) frequency tables for each student subgroup, (b) descriptive tables for each measure, and (c) a *t*-test table containing the results from each variable tested. These results appear on pp. 15-47 in the following order:

Section One: Optimal Cut Scores, By Group

For each measure, we report in text the minimal score necessary for students to be classified as “not at-risk,” or the optimal *meeting* score. The tables report cut scores in half-point increments. For instance, a reported value of 26.5 indicates that all students scoring a 26 or below would be classified as at-risk, while those scoring a 27 or above would be classified as not at-risk. In this instance, an optimal meeting score of 27 would be reported in text, given that only whole number scores are possible on easyCBM®.

Grade 3 results. For students in Grade 3, the optimal *meeting* score on the easyCBM® fall benchmark test in mathematics was 32 and 31 for groups one and two respectively. These scores increased by 4 points for each group on the winter benchmark test, resulting in an optimal *meeting* score of 36 and 35 for the two groups respectively. On the spring benchmark test, the optimal *meeting* score was the same for both groups, at 39.

Grade 4 results. For students in Grade 4, the optimal *meeting* score on the easyCBM® fall benchmark test in mathematics was 34 and 33 for groups one and two respectively. These scores increased by 1 point for group 1 and 3 points for group 2 on the winter benchmark test, resulting

in an optimal *meeting* score of 35 and 36 for the two groups respectively. On the spring benchmark test, the optimal *meeting* score was the same for both groups, at 39.

Grade 5 results. For students in Grade 5, the optimal *meeting* score on the easyCBM® fall benchmark test in mathematics was 33 for group one and 34 for group two. On the winter benchmark test, the optimal *meeting* score was 37 for each group. On the spring benchmark test, the optimal *meeting* score was 42 for each group.

Grade 6 results. For students in Grade 6, the optimal *meeting* score on the easyCBM® fall benchmark test in mathematics was 32 for group one and 30 for group two. On the winter benchmark test, the optimal *meeting* score was 35 for group one and 34 for group two. On the spring benchmark test, the optimal *meeting* score was 38 for each group.

Grade 7 results. For students in Grade 7, the optimal *meeting* score on the easyCBM® mathematics test was 29 for group one and 30 for group two. On the winter benchmark test, the optimal *meeting* score was 29 for group one and 31 for group two. On the spring benchmark test, the optimal *meeting* score was 35 for group one and 34 for group two.

Grade 8 results. For students in Grade 8, the optimal *meeting* score on the easyCBM® mathematics test was 32 for group one and 31 for group two. On the winter benchmark test, the optimal *meeting* score was 35 for group one and 34 for group two. On the spring benchmark test, the optimal *meeting* score was 35 for group one and 34 for group two

Section Two: ROC Analyses, by Group

The second section contains all results from the ROC analyses, including (a) case processing tables, (b) area under the curve statistics, (c) ROC curve figures, and (d) sensitivity and specificity statistics for each cut score. The optimal cut score chosen for each group is displayed in bold-faced font. Once again, we separate the results by the randomly selected

groups and present them by grade. These results appear on pp. 46-77 in the following order:

Discussion

The results of the current study suggest that the diagnostic efficiency of easyCBM® is similar across two comparable groups. Using the Bernouilli random value function, the split file resulted in two groups with quite similar demographics. The results of the *t*-test indicated few statistically significant differences between groups in terms of sample demographics or achievement.

For the ROC analyses, the optimal meeting scores for each group were generally within a few points of each other, and in some cases they were identical. It is interesting that, had we not modified the decision rules outlined by Silberglitt and Hintze (2005), the optimal cut points would have been more similar in some cases and less stable in others. For instance, on the grade 6 fall benchmark, there was no cut score with both sensitivity and specificity exceeding 0.8 for Group 1, so sensitivity was maximized as much as possible while keeping specificity above 0.7. This approach resulted in a meeting score of 32. However, for Group 2 there *was* a cut score that led to both sensitivity and specificity being above 0.8, placing the meeting score at 30. Had we strictly followed the Silberglitt and Hintze rules, the meeting score for Group 1 would have been 31 – only one point different from Group 2, versus the 2-point difference obtained when using the modified rules. It is also worth highlighting that the chosen meeting score of 32 for Group 1 had very high sensitivity for Group 2 (above 0.9) while maintaining specificity above 0.7.

However, in other cases, such as in the grade 3 spring benchmark, the modified rules actually resulted in *more* stable optimal cut scores. Overall, we believe that the importance of high sensitivity – and the potential dangers of false negatives – make the modifications to the Silberglitt and Hintze rules worthwhile for establishing optimal cut scores for screening assessments intended for use within an RTI framework.

Perhaps the most substantial finding from the current study is that in no case did the AUC statistics differ significantly between groups. Thus, the observed differences in optimal cut points can be attributed to sampling or measurement error. The similarities of the curves between groups is clearly evident when examining the ROC figures. It is important that the optimal cut scores for a formative measure not vary dramatically among groups. The findings reported here suggest that, when used within the state of Washington, easyCBM® optimal cut scores likely only differ slightly between groups of students.

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Table 1

Demographics

Grade	*n*	% ELL	% FRL	% SPED	% Female	Amer Ind	Asian/Pac Islander	Black	Hispanic	White	Multi	Decline/ Missing
District 1						% Ethnicity						
3	1023	3.1	45.2	12.7	48.5	2.8	10.9	5.2	8.7	57.9	11.9	2.5
4	993	2.9	43.1	11.7	48.8	2.1	9.4	5.5	9.4	57.5	13.9	2.2
5	1000	2.9	39.7	15.1	42.6	1.9	10.8	5.3	7.8	57.3	14.7	2.2
6	940	2.1	40.1	11.6	49.1	3.2	10.0	5.5	8.9	59.0	10.9	2.4
7	982	2.0	38.9	13.1	48.8	2.3	10.3	9.0	9.6	58.5	6.2	4.2
8	1107	2.3	34.3	10.3	41.9	3.0	13.6	9.8	11.1	60.7	1.0	0.8
District 2												
3	271	12.2	-	13.7	47.2	5.5	4.1	1.1	24.0	61.3	2.6	1.5
4	262	8.4	-	18.7	48.5	4.2	2.7	0.4	22.9	67.6	2.3	-
5	258	6.2	-	21.3	57.8	7.8	3.5	1.2	20.9	65.5	0.4	0.8
6	245	4.9	-	7.8	49.0	5.3	1.6	1.6	18.4	70.2	2.4	0.4
7	225	4.4	-	4.9	49.3	6.7	1.8	1.3	17.3	70.2	0.9	1.8
8	592	3.4	-	12.5	47.6	7.4	2.0	1.7	14.9	71.6	1.0	1.4
District 3												
3	638	6.1	29.5	15.5	49.2	0.9	16.8	6.7	7.2	56.4	11.9	-
4	673	5.6	27.0	15.5	44.9	1.0	18.1	6.7	4.5	59.0	10.7	-
5	638	5.2	27.9	14.6	45.5	1.4	15.7	7.8	7.4	64.1	3.6	-
6	667	4.5	27.0	13.0	50.5	1.6	17.1	9.0	8.4	61.2	2.5	0.1
7	623	5.3	28.4	10.4	48.8	0.3	19.4	8.2	7.5	60.7	3.7	0.2
8	661	4.8	25.9	10.7	49.6	1.4	18.8	7.9	7.7	62.0	2.1	0.2

Note. Numbers reflect full sample separated by District. However, during analyses students were excluded listwise and the actual demographics of students included varies by analysis. All values thus more accurately represent the District and not necessarily the analyses, and only provide a general indication of the students included in the analyses.

ELL – English Language Learner, FRL – Free or reduced lunch eligible, SPED – Student receives special education services

Table 2

National Council of Teachers of Mathematics Focal Point Standards

Grade	Focal Point 1	Focal Point 2	Focal Point 3
3	Number and Operations and Algebra	Number and Operations	Geometry
4	Number and Operations and Algebra	Number and Operations	Measurement
5	Number and Operations and Algebra	Number and Operations	Geometry, Measurement, and Algebra
6	Number and Operations	Algebra	Number and Operations and Ratios
7	Number and Operations and Algebra and Geometry	Measurement Geometry and Algebra	Number and Operations and Algebra
8	Algebra	Geometry and Measurement	Data Analysis Number Operations and Algebra

Section 1: Results of the Random Sample Split

Grade 3

Rndm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Group 1	949	49.1	49.1	49.1
	Group 2	983	50.9	50.9	100.0
	Total	1932	100.0	100.0	

EthnicCd

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	American Indian/Alaskan Native	15	1.6	1.6	1.6
		Asian/Pacific Islander	110	11.6	11.6	13.2
		Black	47	5.0	5.0	18.1
		Hispanic	108	11.4	11.4	29.5
		White	551	58.1	58.1	87.6
		Multiethnic	101	10.6	10.6	98.2
		Decline	17	1.8	1.8	100.0
		Total	949	100.0	100.0	
Group 2	Valid	American Indian/Alaskan Native	35	3.6	3.6	3.6
		Asian/Pacific Islander	120	12.2	12.2	15.8
		Black	52	5.3	5.3	21.1
		Hispanic	92	9.4	9.4	30.4
		White	567	57.7	57.7	88.1
		Multiethnic	104	10.6	10.6	98.7
		Decline	13	1.3	1.3	100.0
		Total	983	100.0	100.0	

SPED

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	826	87.0	87.0	87.0
		Yes	123	13.0	13.0	100.0
		Total	949	100.0	100.0	
Group 2	Valid	No	840	85.5	85.5	85.5
		Yes	143	14.5	14.5	100.0
		Total	983	100.0	100.0	

Female

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	Male	474	49.9	49.9	49.9
		Female	475	50.1	50.1	100.0
		Total	949	100.0	100.0	
Group 2	Valid	Male	520	52.9	52.9	52.9
		Female	463	47.1	47.1	100.0
		Total	983	100.0	100.0	

ELL

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	891	93.9	93.9	93.9
		Yes	58	6.1	6.1	100.0
		Total	949	100.0	100.0	
Group 2	Valid	No	937	95.3	95.3	95.3
		Yes	46	4.7	4.7	100.0
		Total	983	100.0	100.0	

EconDsvntg

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	513	54.1	62.2	62.2
		Yes	312	32.9	37.8	100.0
		Total	825	86.9	100.0	
	Missing	System	124	13.1		
	Total		949	100.0		
Group 2	Valid	No	486	49.4	59.0	59.0
		Yes	338	34.4	41.0	100.0
		Total	824	83.8	100.0	
	Missing	System	159	16.2		
	Total		983	100.0		

Descriptive Statistics

Rndm		N	Minimum	Maximum	Mean	Std. Deviation
Group 1	MSP Math	945	5	575	408.19	43.583
	Fall09TotMath	290	12	45	31.53	6.431
	Wint10TotMath	339	20	45	35.52	5.977
	Spr10TotMath	450	13	45	37.04	5.636
	Valid N (listwise)	240				
Group 2	MSP Math	973	9	575	405.17	42.440
	Fall09TotMath	306	14	45	30.69	6.307
	Wint10TotMath	385	11	45	34.94	6.160
	Spr10TotMath	476	17	45	36.45	5.876
	Valid N (listwise)	257				

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AmerInd/ AkNative	Equal variances assumed	30.605	.000	-2.744	1930	.006	-.020	.007	-.034	-.006
	Equal variances not assumed			-2.762	1726.160	.006	-.020	.007	-.034	-.006
Asian/ PacIslnder	Equal variances assumed	.699	.403	-.418	1930	.676	-.006	.015	-.035	.023
	Equal variances not assumed			-.418	1929.682	.676	-.006	.015	-.035	.023
Black	Equal variances assumed	.452	.502	-.336	1930	.737	-.003	.010	-.023	.016
	Equal variances not assumed			-.336	1929.968	.737	-.003	.010	-.023	.016
Hispanic	Equal variances assumed	8.528	.004	1.458	1930	.145	.020	.014	-.007	.047
	Equal variances not assumed			1.456	1901.980	.146	.020	.014	-.007	.047
White	Equal variances assumed	.115	.735	.169	1930	.866	.004	.022	-.040	.048
	Equal variances not assumed			.169	1927.770	.866	.004	.022	-.040	.048
Multiethnic	Equal variances assumed	.008	.928	.045	1930	.964	.001	.014	-.027	.028
	Equal variances not assumed			.045	1927.239	.964	.001	.014	-.027	.028
Decline	Equal variances assumed	2.779	.096	.833	1930	.405	.005	.006	-.006	.016
	Equal variances not assumed			.831	1867.408	.406	.005	.006	-.006	.016
SPED	Equal variances assumed	4.101	.043	-1.011	1930	.312	-.016	.016	-.047	.015
	Equal variances not assumed			-1.012	1929.659	.312	-.016	.016	-.047	.015
Female	Equal variances assumed	3.195	.074	1.298	1930	.195	.030	.023	-.015	.074
	Equal variances not assumed			1.298	1927.373	.195	.030	.023	-.015	.074
ELL	Equal variances assumed	7.802	.005	1.394	1930	.163	.014	.010	-.006	.034
	Equal variances not assumed			1.391	1881.700	.164	.014	.010	-.006	.035

Independent Samples Test (continued)

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
EconDsvntg	Equal variances assumed	6.945	.008	-1.330	1647	.184	-.032	.024	-.079	.015
	Equal variances not assumed			-1.330	1646.609	.184	-.032	.024	-.079	.015
OAKS Math Tot	Equal variances assumed	.263	.608	1.533	1916	.125	3.011	1.964	-.841	6.864
	Equal variances not assumed			1.533	1910.057	.126	3.011	1.965	-.842	6.865
Fall easyCBM	Equal variances assumed	.422	.516	1.612	594	.107	.841	.522	-.183	1.866
	Equal variances not assumed			1.612	590.827	.108	.841	.522	-.184	1.867
Wint easyCBM	Equal variances assumed	.068	.794	1.267	722	.206	.573	.452	-.315	1.462
	Equal variances not assumed			1.270	715.218	.205	.573	.452	-.313	1.460
Spring easyCBM	Equal variances assumed	1.280	.258	1.547	924	.122	.586	.379	-.157	1.329
	Equal variances not assumed			1.549	923.802	.122	.586	.378	-.156	1.328
PLC	Equal variances assumed	4.313	.038	1.039	1916	.299	.022	.022	-.020	.065
	Equal variances not assumed			1.039	1915.677	.299	.022	.022	-.020	.065

Grade 4

Rndm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Group 1	985	51.1	51.1	51.1
	Group 2	943	48.9	48.9	100.0
	Total	1928	100.0	100.0	

EthnicCd

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	American Indian/Alaskan Native	18	1.8	1.8	1.8
		Asian/Pacific Islander	114	11.6	11.6	13.4
		Black	44	4.5	4.5	17.9
		Hispanic	85	8.6	8.6	26.5
		White	597	60.6	60.6	87.1
		Multiethnic	118	12.0	12.0	99.1
		Decline	9	.9	.9	100.0
		Total	985	100.0	100.0	
Group 2	Valid	American Indian/Alaskan Native	21	2.2	2.2	2.2
		Asian/Pacific Islander	108	11.5	11.5	13.7
		Black	57	6.0	6.0	19.7
		Hispanic	98	10.4	10.4	30.1
		White	548	58.1	58.1	88.2
		Multiethnic	98	10.4	10.4	98.6
		Decline	13	1.4	1.4	100.0
		Total	943	100.0	100.0	

SPED

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	840	85.3	85.3	85.3
		Yes	145	14.7	14.7	100.0
		Total	985	100.0	100.0	
Group 2	Valid	No	819	86.9	86.9	86.9
		Yes	124	13.1	13.1	100.0
		Total	943	100.0	100.0	

Female

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	Male	530	53.8	53.8	53.8
		Female	455	46.2	46.2	100.0
		Total	985	100.0	100.0	
Group 2	Valid	Male	484	51.3	51.3	51.3
		Female	459	48.7	48.7	100.0
		Total	943	100.0	100.0	

ELL

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	934	94.8	94.8	94.8
		Yes	51	5.2	5.2	100.0
		Total	985	100.0	100.0	
Group 2	Valid	No	905	96.0	96.0	96.0
		Yes	38	4.0	4.0	100.0
		Total	943	100.0	100.0	

EconDsvntg

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	521	52.9	61.2	61.2
		Yes	330	33.5	38.8	100.0
		Total	851	86.4	100.0	
	Missing	System	134	13.6		
	Total		985	100.0		
Group 2	Valid	No	527	55.9	65.3	65.3
		Yes	280	29.7	34.7	100.0
		Total	807	85.6	100.0	
	Missing	System	136	14.4		
	Total		943	100.0		

Descriptive Statistics

Rndm		N	Minimum	Maximum	Mean	Std. Deviation
Group 1	MSP Math	975	10	575	409.35	57.267
	Fall09TotMath	338	14	45	33.49	7.289
	Wint10TotMath	432	14	45	35.56	6.378
	Spr10TotMath	454	13	45	37.30	6.487
	Valid N (listwise)	281				
Group 2	MSP Math	934	9	575	410.62	53.936
	Fall09TotMath	335	15	45	33.36	6.941
	Wint10TotMath	427	14	45	35.69	6.158
	Spr10TotMath	459	10	45	36.97	6.463
	Valid N (listwise)	289				

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AmerInd/ AkNative	Equal variances assumed	1.552	.213	-.623	1926	.534	-.004	.006	-.017	.009
	Equal variances not assumed			-.621	1889.017	.534	-.004	.006	-.017	.009
Asian/ PacIslnder	Equal variances assumed	.028	.868	.083	1926	.934	.001	.015	-.027	.030
	Equal variances not assumed			.083	1923.066	.934	.001	.015	-.027	.030
Black	Equal variances assumed	9.701	.002	-1.554	1926	.120	-.016	.010	-.036	.004
	Equal variances not assumed			-1.549	1862.210	.121	-.016	.010	-.036	.004
Hispanic	Equal variances assumed	6.986	.008	-1.320	1926	.187	-.018	.013	-.044	.009
	Equal variances not assumed			-1.318	1895.681	.188	-.018	.013	-.044	.009
White	Equal variances assumed	4.876	.027	1.116	1926	.265	.025	.022	-.019	.069
	Equal variances not assumed			1.115	1920.541	.265	.025	.022	-.019	.069
Multiethnic	Equal variances assumed	4.894	.027	1.104	1926	.270	.016	.014	-.012	.044
	Equal variances not assumed			1.106	1925.341	.269	.016	.014	-.012	.044
Decline	Equal variances assumed	3.696	.055	-.960	1926	.337	-.005	.005	-.014	.005
	Equal variances not assumed			-.956	1818.407	.339	-.005	.005	-.014	.005
SPED	Equal variances assumed	3.971	.046	.995	1926	.320	.016	.016	-.015	.047
	Equal variances not assumed			.996	1925.974	.319	.016	.016	-.015	.047
Female	Equal variances assumed	3.799	.051	-1.091	1926	.276	-.025	.023	-.069	.020
	Equal variances not assumed			-1.091	1921.902	.276	-.025	.023	-.069	.020
ELL	Equal variances assumed	5.786	.016	1.201	1926	.230	.011	.010	-.007	.030
	Equal variances not assumed			1.204	1915.110	.229	.011	.010	-.007	.030

Independent Samples Test (continued)

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
EconDsvntg	Equal variances assumed	11.777	.001	1.723	1656	.085	.041	.024	-.006	.087
	Equal variances not assumed			1.724	1654.529	.085	.041	.024	-.006	.087
OAKS Math Tot	Equal variances assumed	.081	.776	-.499	1907	.618	-1.271	2.549	-6.269	3.727
	Equal variances not assumed			-.499	1906.454	.617	-1.271	2.545	-6.263	3.720
Fall easyCBM	Equal variances assumed	1.878	.171	.226	671	.821	.124	.549	-.953	1.201
	Equal variances not assumed			.226	669.928	.821	.124	.549	-.953	1.201
Wint easyCBM	Equal variances assumed	.657	.418	-.306	857	.760	-.131	.428	-.970	.709
	Equal variances not assumed			-.306	856.528	.760	-.131	.428	-.970	.709
Spring easyCBM	Equal variances assumed	.216	.642	.770	911	.441	.330	.429	-.511	1.171
	Equal variances not assumed			.770	910.806	.441	.330	.429	-.511	1.171
PLC	Equal variances assumed	.996	.318	.501	1907	.617	.011	.023	-.033	.055
	Equal variances not assumed			.500	1902.749	.617	.011	.023	-.033	.055

Grade 5

Rndm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Group 1	944	49.8	49.8	49.8
	Group 2	952	50.2	50.2	100.0
	Total	1896	100.0	100.0	

EthnicCd

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	American Indian/Alaskan Native	22	2.3	2.3	2.3
		Asian/Pacific Islander	107	11.3	11.3	13.7
		Black	54	5.7	5.7	19.4
		Hispanic	95	10.1	10.1	29.4
		White	562	59.5	59.5	89.0
		Multiethnic	88	9.3	9.3	98.3
		Decline	16	1.7	1.7	100.0
		Total	944	100.0	100.0	
Group 2	Valid	American Indian/Alaskan Native	26	2.7	2.7	2.7
		Asian/Pacific Islander	110	11.6	11.6	14.3
		Black	52	5.5	5.5	19.7
		Hispanic	84	8.8	8.8	28.6
		White	589	61.9	61.9	90.4
		Multiethnic	83	8.7	8.7	99.2
		Decline	8	.8	.8	100.0
		Total	952	100.0	100.0	

SPED

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	800	84.7	84.7	84.7
		Yes	144	15.3	15.3	100.0
		Total	944	100.0	100.0	
Group 2	Valid	No	797	83.7	83.7	83.7
		Yes	155	16.3	16.3	100.0
		Total	952	100.0	100.0	

Female

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	Male	502	53.2	53.2	53.2
		Female	442	46.8	46.8	100.0
		Total	944	100.0	100.0	
Group 2	Valid	Male	529	55.6	55.6	55.6
		Female	423	44.4	44.4	100.0
		Total	952	100.0	100.0	

ELL

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	895	94.8	94.8	94.8
		Yes	49	5.2	5.2	100.0
		Total	944	100.0	100.0	
Group 2	Valid	No	923	97.0	97.0	97.0
		Yes	29	3.0	3.0	100.0
		Total	952	100.0	100.0	

EconDsvntg

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	541	57.3	66.0	66.0
		Yes	279	29.6	34.0	100.0
		Total	820	86.9	100.0	
	Missing	System	124	13.1		
	Total		944	100.0		
Group 2	Valid	No	515	54.1	63.5	63.5
		Yes	296	31.1	36.5	100.0
		Total	811	85.2	100.0	
	Missing	System	141	14.8		
	Total		952	100.0		

Descriptive Statistics

Rndm		N	Minimum	Maximum	Mean	Std. Deviation
Group 1	MSP Math	937	11	575	406.24	45.271
	Fall09TotMath	310	16	45	33.28	7.136
	Wint10TotMath	378	12	45	36.27	7.083
	Spr10TotMath	516	14	45	39.07	6.495
	Valid N (listwise)	287				
Group 2	MSP Math	944	6	575	405.62	46.956
	Fall09TotMath	333	14	45	33.20	7.439
	Wint10TotMath	403	13	45	35.76	7.003
	Spr10TotMath	531	10	45	39.22	6.143
	Valid N (listwise)	320				

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AmerInd/ AkNative	Equal variances assumed	1.233	.267	-.555	1894	.579	-.004	.007	-.018	.010
	Equal variances not assumed			-.555	1885.109	.579	-.004	.007	-.018	.010
Asian/ PacIslnder	Equal variances assumed	.090	.764	-.150	1894	.881	-.002	.015	-.031	.026
	Equal variances not assumed			-.150	1894.000	.881	-.002	.015	-.031	.026
Black	Equal variances assumed	.239	.625	.245	1894	.807	.003	.011	-.018	.023
	Equal variances not assumed			.244	1892.278	.807	.003	.011	-.018	.023
Hispanic	Equal variances assumed	3.413	.065	.923	1894	.356	.012	.013	-.014	.039
	Equal variances not assumed			.923	1885.468	.356	.012	.013	-.014	.039
White	Equal variances assumed	4.289	.038	-1.041	1894	.298	-.023	.022	-.067	.021
	Equal variances not assumed			-1.041	1893.321	.298	-.023	.022	-.067	.021
Multiethnic	Equal variances assumed	.841	.359	.458	1894	.647	.006	.013	-.020	.032
	Equal variances not assumed			.458	1891.184	.647	.006	.013	-.020	.032
Decline	Equal variances assumed	11.147	.001	1.665	1894	.096	.009	.005	-.002	.019
	Equal variances not assumed			1.662	1696.484	.097	.009	.005	-.002	.019
SPED	Equal variances assumed	1.506	.220	-.613	1894	.540	-.010	.017	-.043	.023
	Equal variances not assumed			-.613	1893.384	.540	-.010	.017	-.043	.023
Female	Equal variances assumed	4.058	.044	1.044	1894	.297	.024	.023	-.021	.069
	Equal variances not assumed			1.044	1893.696	.297	.024	.023	-.021	.069
ELL	Equal variances assumed	22.390	.000	2.353	1894	.019	.021	.009	.004	.039
	Equal variances not assumed			2.350	1775.732	.019	.021	.009	.004	.039

Independent Samples Test (continued)

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
EconDsvntg	Equal variances assumed	4.347	.037	-1.045	1629	.296	-.025	.024	-.071	.022
	Equal variances not assumed			-1.045	1627.811	.296	-.025	.024	-.071	.022
OAKS Math Tot	Equal variances assumed	.167	.683	.291	1879	.771	.619	2.127	-3.552	4.791
	Equal variances not assumed			.291	1877.411	.771	.619	2.127	-3.552	4.790
Fall easyCBM	Equal variances assumed	.183	.669	.143	641	.886	.082	.576	-1.048	1.213
	Equal variances not assumed			.143	640.421	.886	.082	.575	-1.047	1.211
Wint easyCBM	Equal variances assumed	.035	.851	1.013	779	.312	.511	.504	-.479	1.500
	Equal variances not assumed			1.012	774.586	.312	.511	.504	-.480	1.501
Spring easyCBM	Equal variances assumed	3.611	.058	-.381	1045	.703	-.149	.391	-.915	.618
	Equal variances not assumed			-.380	1037.629	.704	-.149	.391	-.916	.618
PLC	Equal variances assumed	.581	.446	.382	1879	.703	.009	.023	-.036	.053
	Equal variances not assumed			.382	1878.967	.703	.009	.023	-.036	.053

Grade 6

Rndm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Group 1	961	51.9	51.9	51.9
	Group 2	891	48.1	48.1	100.0
	Total	1852	100.0	100.0	

EthnicCd

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	American Indian/Alaskan Native	29	3.0	3.0	3.0
		Asian/Pacific Islander	106	11.0	11.0	14.0
		Black	62	6.5	6.5	20.5
		Hispanic	90	9.4	9.4	29.9
		White	601	62.5	62.5	92.4
		Multiethnic	56	5.8	5.8	98.2
		Decline	17	1.8	1.8	100.0
		Total	961	100.0	100.0	
Group 2	Valid	American Indian/Alaskan Native	25	2.8	2.8	2.8
		Asian/Pacific Islander	106	11.9	11.9	14.7
		Black	54	6.1	6.1	20.8
		Hispanic	95	10.7	10.7	31.4
		White	534	59.9	59.9	91.4
		Multiethnic	69	7.7	7.7	99.1
		Decline	8	.9	.9	100.0
		Total	891	100.0	100.0	

SPED

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	846	88.0	88.0	88.0
		Yes	115	12.0	12.0	100.0
		Total	961	100.0	100.0	
Group 2	Valid	No	791	88.8	88.8	88.8
		Yes	100	11.2	11.2	100.0
		Total	891	100.0	100.0	

Female

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	Male	499	51.9	51.9	51.9
		Female	462	48.1	48.1	100.0
		Total	961	100.0	100.0	
Group 2	Valid	Male	434	48.7	48.7	48.7
		Female	457	51.3	51.3	100.0
		Total	891	100.0	100.0	

ELL

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	938	97.6	97.6	97.6
		Yes	23	2.4	2.4	100.0
		Total	961	100.0	100.0	
Group 2	Valid	No	852	95.6	95.6	95.6
		Yes	39	4.4	4.4	100.0
		Total	891	100.0	100.0	

EconDsvntg

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	540	56.2	64.8	64.8
		Yes	293	30.5	35.2	100.0
		Total	833	86.7	100.0	
	Missing	System	128	13.3		
	Total		961	100.0		
Group 2	Valid	No	506	56.8	65.7	65.7
		Yes	264	29.6	34.3	100.0
		Total	770	86.4	100.0	
	Missing	System	121	13.6		
	Total		891	100.0		

Descriptive Statistics

Rndm		N	Minimum	Maximum	Mean	Std. Deviation
Group 1	MSP Math	956	6	575	405.43	51.903
	Fall09TotMath	416	13	45	31.62	7.264
	Wint10TotMath	420	10	45	33.75	7.194
	Spr10TotMath	869	11	45	36.38	6.899
	Valid N (listwise)	382				
Group 2	MSP Math	885	8	575	405.45	53.106
	Fall09TotMath	417	12	45	31.43	7.054
	Wint10TotMath	414	13	45	33.61	7.186
	Spr10TotMath	803	8	45	36.27	7.139
	Valid N (listwise)	370				

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AmerInd/ AkNative	Equal variances assumed	.293	.588	.271	1850	.787	.002	.008	-.013	.017
	Equal variances not assumed			.271	1846.983	.786	.002	.008	-.013	.017
Asian/ PacIslnder	Equal variances assumed	1.368	.242	-.585	1850	.559	-.009	.015	-.038	.020
	Equal variances not assumed			-.584	1828.445	.559	-.009	.015	-.038	.020
Black	Equal variances assumed	.481	.488	.347	1850	.729	.004	.011	-.018	.026
	Equal variances not assumed			.347	1846.000	.728	.004	.011	-.018	.026
Hispanic	Equal variances assumed	3.459	.063	-.930	1850	.353	-.013	.014	-.040	.014
	Equal variances not assumed			-.928	1817.777	.354	-.013	.014	-.040	.014
White	Equal variances assumed	5.192	.023	1.150	1850	.250	.026	.023	-.018	.071
	Equal variances not assumed			1.150	1835.764	.250	.026	.023	-.018	.071
Multiethnic	Equal variances assumed	10.840	.001	-1.643	1850	.101	-.019	.012	-.042	.004
	Equal variances not assumed			-1.635	1774.592	.102	-.019	.012	-.042	.004
Decline	Equal variances assumed	10.609	.001	1.623	1850	.105	.009	.005	-.002	.019
	Equal variances not assumed			1.643	1740.583	.100	.009	.005	-.002	.019
SPED	Equal variances assumed	.996	.318	.499	1850	.618	.007	.015	-.022	.037
	Equal variances not assumed			.499	1845.771	.618	.007	.015	-.022	.037
Female	Equal variances assumed	.283	.595	-1.383	1850	.167	-.032	.023	-.078	.013
	Equal variances not assumed			-1.383	1839.337	.167	-.032	.023	-.078	.013
ELL	Equal variances assumed	22.767	.000	-2.374	1850	.018	-.020	.008	-.036	-.003
	Equal variances not assumed			-2.348	1641.798	.019	-.020	.008	-.036	-.003

Independent Samples Test (continued)

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
EconDsvntg	Equal variances assumed	.557	.455	.373	1601	.709	.009	.024	-.038	.056
	Equal variances not assumed			.373	1592.564	.709	.009	.024	-.038	.056
OAKS Math Tot	Equal variances assumed	2.071	.150	-.009	1839	.993	-.021	2.448	-4.823	4.781
	Equal variances not assumed			-.009	1820.750	.993	-.021	2.450	-4.827	4.785
Fall easyCBM	Equal variances assumed	.026	.872	.385	831	.700	.191	.496	-.783	1.165
	Equal variances not assumed			.385	830.170	.700	.191	.496	-.783	1.165
Wint easyCBM	Equal variances assumed	.092	.762	.289	832	.773	.144	.498	-.834	1.121
	Equal variances not assumed			.289	831.854	.773	.144	.498	-.834	1.121
Spring easyCBM	Equal variances assumed	1.805	.179	.308	1670	.758	.106	.343	-.568	.779
	Equal variances not assumed			.308	1648.899	.758	.106	.344	-.569	.780
PLC	Equal variances assumed	3.079	.079	.885	1839	.376	.020	.023	-.025	.065
	Equal variances not assumed			.885	1825.687	.376	.020	.023	-.025	.065

Grade 7

Rndm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Group 1	904	49.4	49.4	49.4
	Group 2	926	50.6	50.6	100.0
	Total	1830	100.0	100.0	

EthnicCd

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	American Indian/Alaskan Native	20	2.2	2.2	2.2
		Asian/Pacific Islander	116	12.8	12.8	15.0
		Black	77	8.5	8.5	23.6
		Hispanic	87	9.6	9.6	33.2
		White	538	59.5	59.5	92.7
		Multiethnic	47	5.2	5.2	97.9
		Decline	19	2.1	2.1	100.0
		Total	904	100.0	100.0	
Group 2	Valid	American Indian/Alaskan Native	20	2.2	2.2	2.2
		Asian/Pacific Islander	110	11.9	11.9	14.0
		Black	65	7.0	7.0	21.1
		Hispanic	93	10.0	10.0	31.1
		White	572	61.8	61.8	92.9
		Multiethnic	39	4.2	4.2	97.1
		Decline	27	2.9	2.9	100.0
		Total	926	100.0	100.0	

SPED

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	796	88.1	88.1	88.1
		Yes	108	11.9	11.9	100.0
		Total	904	100.0	100.0	
Group 2	Valid	No	829	89.5	89.5	89.5
		Yes	97	10.5	10.5	100.0
		Total	926	100.0	100.0	

Female

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	Male	444	49.1	49.1	49.1
		Female	460	50.9	50.9	100.0
		Total	904	100.0	100.0	
Group 2	Valid	Male	492	53.1	53.1	53.1
		Female	434	46.9	46.9	100.0
		Total	926	100.0	100.0	

ELL

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	875	96.8	96.8	96.8
		Yes	29	3.2	3.2	100.0
		Total	904	100.0	100.0	
Group 2	Valid	No	892	96.3	96.3	96.3
		Yes	34	3.7	3.7	100.0
		Total	926	100.0	100.0	

EconDsvntg

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	524	58.0	66.0	66.0
		Yes	270	29.9	34.0	100.0
		Total	794	87.8	100.0	
	Missing	System	110	12.2		
	Total		904	100.0		
Group 2	Valid	No	518	55.9	64.2	64.2
		Yes	289	31.2	35.8	100.0
		Total	807	87.1	100.0	
	Missing	System	119	12.9		
	Total		926	100.0		

Descriptive Statistics

Rndm		N	Minimum	Maximum	Mean	Std. Deviation
Group 1	MSP Math	892	10	575	404.00	56.308
	Fall09TotMath	368	9	45	30.36	8.217
	Wint10TotMath	374	11	45	31.13	8.090
	Spr10TotMath	786	10	45	32.40	7.960
	Valid N (listwise)	321				
Group 2	MSP Math	922	12	575	405.77	51.542
	Fall09TotMath	388	10	45	30.35	7.988
	Wint10TotMath	402	11	45	30.82	8.075
	Spr10TotMath	809	12	45	32.57	7.839
	Valid N (listwise)	345				

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AmerInd/ AkNative	Equal variances assumed	.024	.878	.077	1828	.939	.001	.007	-.013	.014
	Equal variances not assumed			.077	1825.657	.939	.001	.007	-.013	.014
Asian/ PacIslnder	Equal variances assumed	1.534	.216	.619	1828	.536	.010	.015	-.021	.040
	Equal variances not assumed			.619	1822.042	.536	.010	.015	-.021	.040
Black	Equal variances assumed	5.751	.017	1.198	1828	.231	.015	.013	-.010	.040
	Equal variances not assumed			1.196	1805.214	.232	.015	.013	-.010	.040
Hispanic	Equal variances assumed	.362	.547	-.301	1828	.763	-.004	.014	-.032	.023
	Equal variances not assumed			-.301	1827.953	.763	-.004	.014	-.032	.023
White	Equal variances assumed	3.861	.050	-.988	1828	.323	-.023	.023	-.067	.022
	Equal variances not assumed			-.988	1825.872	.323	-.023	.023	-.067	.022
Multiethnic	Equal variances assumed	3.989	.046	.998	1828	.319	.010	.010	-.010	.029
	Equal variances not assumed			.996	1800.430	.319	.010	.010	-.010	.029
Decline	Equal variances assumed	4.959	.026	-1.112	1828	.266	-.008	.007	-.022	.006
	Equal variances not assumed			-1.114	1795.575	.265	-.008	.007	-.022	.006
SPED	Equal variances assumed	3.987	.046	.998	1828	.319	.015	.015	-.014	.044
	Equal variances not assumed			.997	1815.965	.319	.015	.015	-.014	.044
Female	Equal variances assumed	2.793	.095	1.719	1828	.086	.040	.023	-.006	.086
	Equal variances not assumed			1.719	1826.776	.086	.040	.023	-.006	.086
ELL	Equal variances assumed	1.184	.277	-.544	1828	.587	-.005	.009	-.021	.012
	Equal variances not assumed			-.544	1824.934	.586	-.005	.009	-.021	.012

Independent Samples Test (continued)

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
EconDsvntg	Equal variances assumed	2.295	.130	-.758	1599	.449	-.018	.024	-.065	.029
	Equal variances not assumed			-.758	1598.971	.449	-.018	.024	-.065	.029
OAKS Math Tot	Equal variances assumed	.387	.534	-.699	1812	.485	-1.770	2.533	-6.738	3.198
	Equal variances not assumed			-.698	1785.786	.485	-1.770	2.537	-6.746	3.205
Fall easyCBM	Equal variances assumed	1.443	.230	.027	754	.978	.016	.589	-1.141	1.173
	Equal variances not assumed			.027	749.069	.978	.016	.590	-1.142	1.174
Wint easyCBM	Equal variances assumed	.027	.870	.525	774	.600	.305	.581	-.835	1.445
	Equal variances not assumed			.525	769.760	.600	.305	.581	-.835	1.445
Spring easyCBM	Equal variances assumed	.472	.492	-.430	1593	.667	-.170	.396	-.946	.606
	Equal variances not assumed			-.430	1589.903	.667	-.170	.396	-.946	.606
PLC	Equal variances assumed	.270	.603	.260	1812	.795	.006	.023	-.039	.051
	Equal variances not assumed			.260	1810.251	.795	.006	.023	-.039	.051

Grade 8

Rndm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Group 1	1248	50.7	50.7	50.7
	Group 2	1213	49.3	49.3	100.0
	Total	2461	100.0	100.0	

EthnicCd

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	American Indian/Alaskan Native	39	3.1	3.3	3.3
		Asian/Pacific Islander	146	11.7	12.2	15.5
		Black	81	6.5	6.8	22.2
		Hispanic	124	9.9	10.4	32.6
		White	787	63.1	65.8	98.4
		Multiethnic	12	1.0	1.0	99.4
		Decline	7	.6	.6	100.0
		Total	1196	95.8	100.0	
	Missing	System	52	4.2		
	Total		1248	100.0		
Group 2	Valid	American Indian/Alaskan Native	47	3.9	4.0	4.0
		Asian/Pacific Islander	141	11.6	12.1	16.2
		Black	89	7.3	7.6	23.8
		Hispanic	138	11.4	11.9	35.7
		White	719	59.3	61.8	97.4
		Multiethnic	19	1.6	1.6	99.1
		Decline	11	.9	.9	100.0
		Total	1164	96.0	100.0	
	Missing	System	49	4.0		
	Total		1213	100.0		

SPED

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	1072	85.9	89.2	89.2
		Yes	130	10.4	10.8	100.0
		Total	1202	96.3	100.0	
	Missing	System	46	3.7		
	Total		1248	100.0		
Group 2	Valid	No	1034	85.2	88.1	88.1
		Yes	140	11.5	11.9	100.0
		Total	1174	96.8	100.0	
	Missing	System	39	3.2		
	Total		1213	100.0		

Female

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	Male	613	49.1	52.3	52.3
		Female	559	44.8	47.7	100.0
		Total	1172	93.9	100.0	
	Missing	System	76	6.1		
	Total		1248	100.0		
Group 2	Valid	Male	596	49.1	51.7	51.7
		Female	557	45.9	48.3	100.0
		Total	1153	95.1	100.0	
	Missing	System	60	4.9		
	Total		1213	100.0		

ELL

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	No	1159	92.9	96.4	96.4
		Yes	43	3.4	3.6	100.0
		Total	1202	96.3	100.0	
	Missing	System	46	3.7		
	Total		1248	100.0		
Group 2	Valid	No	1139	93.9	97.0	97.0
		Yes	35	2.9	3.0	100.0
		Total	1174	96.8	100.0	
	Missing	System	39	3.2		
	Total		1213	100.0		

EconDsvntg

Rndm			Frequency	Percent	Valid Percent	Cumulative Percent
Group 1	Valid	Not eligible	623	49.9	69.4	69.4
		Eligible	275	22.0	30.6	100.0
		Total	898	72.0	100.0	
	Missing	System	350	28.0		
	Total		1248	100.0		
Group 2	Valid	Not eligible	568	46.8	64.7	64.7
		Eligible	310	25.6	35.3	100.0
		Total	878	72.4	100.0	
	Missing	System	335	27.6		
	Total		1213	100.0		

Descriptive Statistics

Rndm		N	Minimum	Maximum	Mean	Std. Deviation
Group 1	MSP Math	1119	12	575	399.40	46.650
	Fall09TotMath	249	11	45	32.98	7.734
	Wint10TotMath	321	13	45	33.19	8.357
	Spr10TotMath	743	9	45	34.02	7.334
	Valid N (listwise)	201				
Group 2	MSP Math	1105	12	575	394.66	49.807
	Fall09TotMath	266	13	45	32.59	7.893
	Wint10TotMath	325	10	45	33.37	8.576
	Spr10TotMath	745	8	45	33.28	7.748
	Valid N (listwise)	216				

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AmerInd/ AkNative	Equal variances assumed	4.060	.044	-1.007	2358	.314	-.008	.008	-.023	.007
	Equal variances not assumed			-1.005	2319.136	.315	-.008	.008	-.023	.007
Asian/ PacIslnder	Equal variances assumed	.019	.889	.070	2358	.944	.001	.013	-.025	.027
	Equal variances not assumed			.070	2356.663	.944	.001	.013	-.025	.027
Black	Equal variances assumed	2.694	.101	-.820	2358	.412	-.009	.011	-.030	.012
	Equal variances not assumed			-.820	2341.873	.412	-.009	.011	-.030	.012
Hispanic	Equal variances assumed	5.298	.021	-1.150	2358	.250	-.015	.013	-.040	.010
	Equal variances not assumed			-1.149	2340.807	.251	-.015	.013	-.040	.011
White	Equal variances assumed	16.335	.000	2.039	2358	.042	.040	.020	.002	.079
	Equal variances not assumed			2.039	2351.824	.042	.040	.020	.002	.079
Multiethnic	Equal variances assumed	7.220	.007	-1.342	2358	.180	-.006	.005	-.015	.003
	Equal variances not assumed			-1.337	2206.536	.181	-.006	.005	-.016	.003
Decline	Equal variances assumed	4.039	.045	-1.004	2358	.315	-.004	.004	-.011	.003
	Equal variances not assumed			-1.001	2208.965	.317	-.004	.004	-.011	.003
SPED	Equal variances assumed	2.905	.088	-.852	2374	.394	-.011	.013	-.037	.014
	Equal variances not assumed			-.851	2363.667	.395	-.011	.013	-.037	.014
Female	Equal variances assumed	.340	.560	-.295	2323	.768	-.006	.021	-.047	.035
	Equal variances not assumed			-.295	2322.341	.768	-.006	.021	-.047	.035
ELL	Equal variances assumed	2.661	.103	.815	2374	.415	.006	.007	-.008	.020
	Equal variances not assumed			.816	2364.217	.415	.006	.007	-.008	.020

Independent Samples Test (continued)

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
EconDsvntg	Equal variances assumed	17.451	.000	-2.101	1774	.036	-.047	.022	-.091	-.003
	Equal variances not assumed			-2.100	1767.903	.036	-.047	.022	-.091	-.003
OAKS Math Tot	Equal variances assumed	.096	.757	2.317	2222	.021	4.741	2.046	.728	8.753
	Equal variances not assumed			2.316	2208.583	.021	4.741	2.047	.727	8.755
Fall easyCBM	Equal variances assumed	.158	.691	.571	513	.568	.393	.689	-.961	1.748
	Equal variances not assumed			.571	511.925	.568	.393	.689	-.960	1.747
Wint easyCBM	Equal variances assumed	.045	.832	-.278	644	.781	-.185	.666	-1.494	1.123
	Equal variances not assumed			-.278	643.882	.781	-.185	.666	-1.494	1.123
Spring easyCBM	Equal variances assumed	2.416	.120	1.898	1486	.058	.742	.391	-.025	1.510
	Equal variances not assumed			1.898	1481.963	.058	.742	.391	-.025	1.510
PLC	Equal variances assumed	18.829	.000	3.003	2222	.003	.063	.021	.022	.105
	Equal variances not assumed			3.003	2221.015	.003	.063	.021	.022	.105

Section 2: ROC Analyses

Grade 3

Case Processing Summary[b]

Rndm	PLC	Valid N (listwise)
Group 1	Positive[a]	152
	Negative	88
	Missing	709
Group 2	Positive[a]	167
	Negative	90
	Missing	726

Larger values of the test result variable(s) indicate stronger evidence for a positive actual state.

a. The positive actual state is 1.

b. For split file Rndm = Group 2, the test variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group.

Area Under the Curve[c,d]

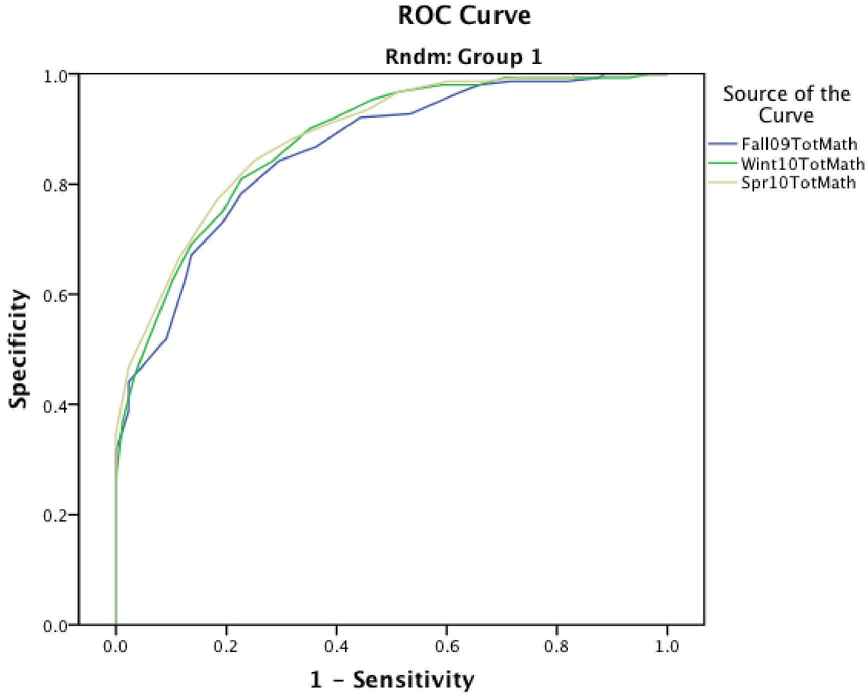
Rndm	Test Result Variable(s)	Area	Std. Error[a]	Asymptotic Sig.[b]	Asymptotic 95% Confidence Interval Lower Bound	Asymptotic 95% Confidence Interval Upper Bound
Group 1	Fall09TotMath	.859	.024	.000	.813	.906
	Wint10TotMath	.878	.022	.000	.835	.921
	Spr10TotMath	.886	.021	.000	.845	.927
Group 2	Fall09TotMath	.818	.026	.000	.767	.869
	Wint10TotMath	.868	.022	.000	.825	.910
	Spr10TotMath	.871	.023	.000	.826	.916

a. Under the nonparametric assumption

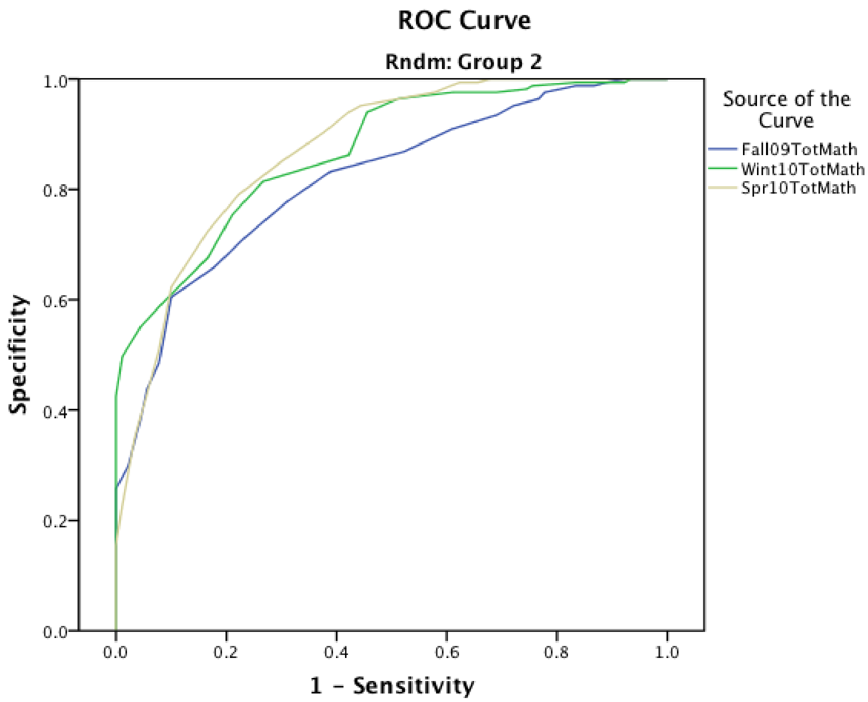
b. Null hypothesis: true area = 0.5

c. For split file Rndm = Group 1, the test result variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

d. For split file Rndm = Group 2, the test result variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.



Diagonal segments are produced by ties.



Diagonal segments are produced by ties.

Grade 3
Fall Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
11	0	1	-	-
13	-	-	0	1
13.5	0.011	1	-	-
15.5	-	-	0.022	1
16	0.023	1	-	-
17.5	0.034	1	0.033	1
18.5	0.045	1	0.078	1
19.5	0.08	1	0.111	0.994
20.5	0.114	1	0.133	0.988
21.5	0.125	0.993	0.167	0.988
22.5	0.182	0.987	0.222	0.976
23.5	0.284	0.987	0.233	0.964
24.5	0.341	0.98	0.278	0.952
25.5	0.375	0.967	0.311	0.934
26.5	0.466	0.928	0.389	0.91
27.5	0.557	0.921	0.478	0.868
28.5	0.636	0.868	0.611	0.832
29.5	0.705	0.842	0.689	0.778
30.5	0.773	0.783	**0.767**	**0.713**
31.5	**0.807**	**0.73**	0.822	0.659
32.5	0.864	0.671	0.9	0.605
33.5	0.875	0.625	0.922	0.485
34.5	0.909	0.52	0.944	0.437
35.5	0.977	0.441	0.956	0.383
36.5	0.977	0.388	0.978	0.299
37.5	1	0.316	1	0.257
38.5	1	0.211	1	0.18
39.5	1	0.184	1	0.114
40.5	1	0.138	1	0.09
41.5	1	0.066	1	0.054
42.5	1	0.046	1	0.024
43.5	1	0.033	-	-
44	-	-	1	0
44.5	1	0.007	-	-
46	1	0	-	-

Grade 3
Winter Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
17	-	-	0	1
18.5	-	-	0.011	1
19	0	1	-	-
19.5	-	-	0.056	1
21	0.011	1	0.067	1
22.5	0.034	1	0.078	0.994
23.5	0.068	0.993	0.1	0.994
24.5	0.114	0.993	0.133	0.994
25.5	0.193	0.993	0.167	0.994
26.5	0.295	0.993	0.244	0.988
27.5	0.341	0.98	0.256	0.982
28.5	0.409	0.98	0.311	0.976
29.5	0.489	0.967	0.389	0.976
30.5	0.534	0.954	0.489	0.964
31.5	0.602	0.921	0.544	0.94
32.5	0.648	0.901	0.578	0.862
33.5	0.716	0.842	0.733	0.814
34.5	0.773	0.809	**0.789**	**0.754**
35.5	**0.807**	**0.75**	0.833	0.677
36.5	0.864	0.691	0.911	0.599
37.5	0.898	0.625	0.956	0.551
38.5	0.943	0.513	0.989	0.497
39.5	0.966	0.454	1	0.425
40.5	0.989	0.368	1	0.287
41.5	1	0.263	1	0.216
42.5	1	0.151	1	0.126
43.5	1	0.105	1	0.078
44.5	1	0.039	1	0.036
46	1	0	1	0

Grade 3
Spring Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
16	-	-	0	1
17	0	1	-	-
18.5	-	-	0.011	1
19	0.011	1	-	-
20.5	-	-	0.022	1
21	0.023	1	-	-
22	-	-	0.044	1
22.5	0.045	1	-	-
23.5	0.068	1	0.056	1
24.5	0.08	1	0.1	1
25.5	0.102	1	0.122	1
26.5	0.125	1	0.178	1
27.5	0.17	1	0.2	1
28.5	0.17	0.993	0.233	1
29.5	0.216	0.993	0.322	1
30.5	0.273	0.993	0.344	0.994
31.5	0.33	0.987	0.378	0.994
32.5	0.398	0.987	0.422	0.976
33.5	0.489	0.967	0.556	0.952
34.5	0.545	0.934	0.578	0.94
35.5	0.602	0.914	0.622	0.904
36.5	0.682	0.882	0.7	0.85
37.5	0.75	0.842	0.778	0.79
38.5	**0.818**	**0.77**	**0.833**	**0.725**
39.5	0.886	0.664	0.9	0.623
40.5	0.932	0.566	0.922	0.509
41.5	0.977	0.467	0.967	0.347
42.5	1	0.349	0.989	0.228
43.5	1	0.197	1	0.156
44.5	1	0.072	1	0.036
46	1	0	1	0

Grade 4

Case Processing Summary[b]

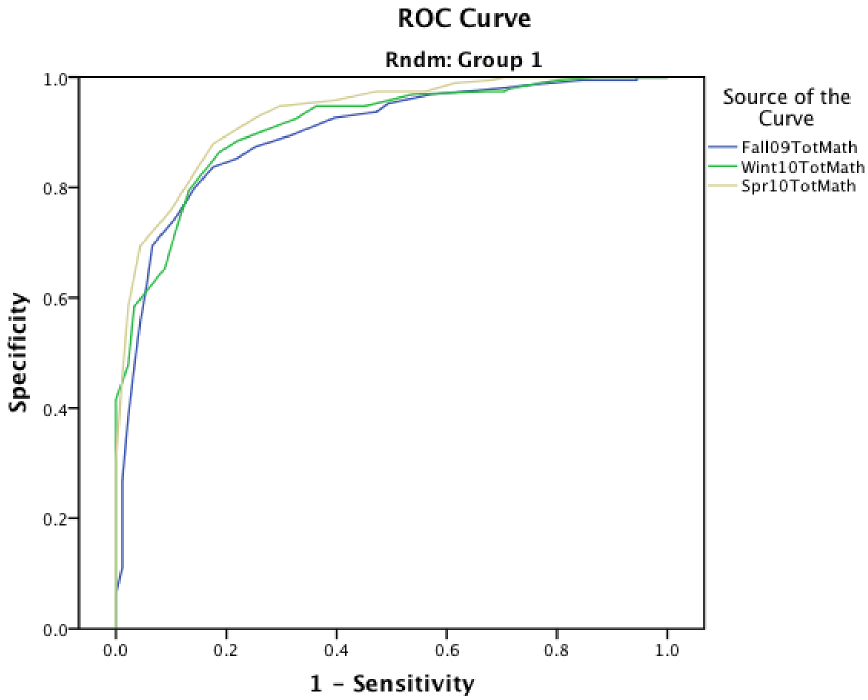
Rndm	PLC	Valid N (listwise)
Group 1	Positive[a]	190
	Negative	91
	Missing	704
Group 2	Positive[a]	177
	Negative	112
	Missing	654

Larger values of the test result variable(s) indicate stronger evidence for a positive actual state.
a. The positive actual state is 1.
b. For split file Rndm = Group 2, the test variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group.

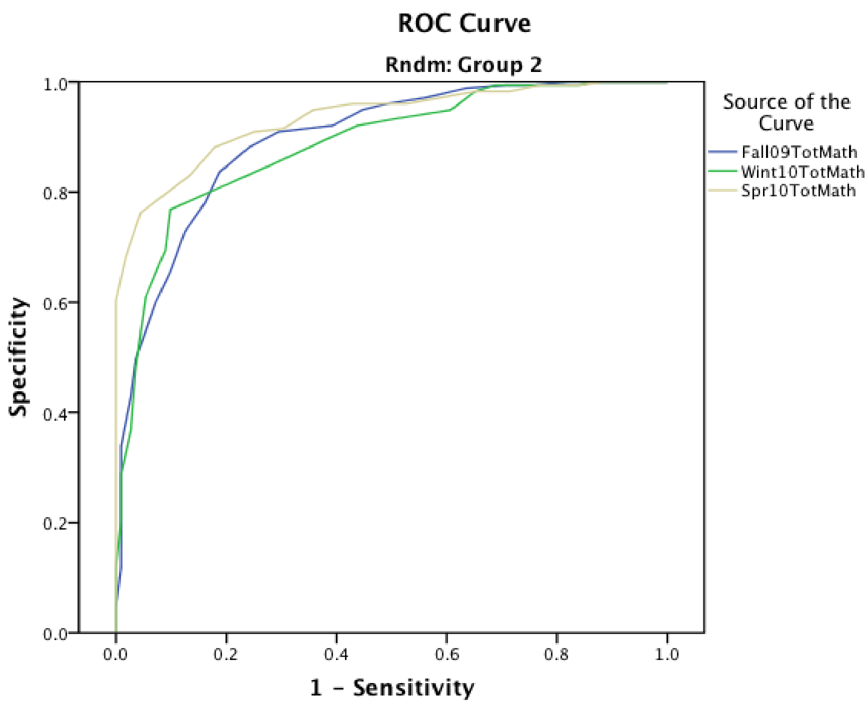
Area Under the Curve[c,d]

					Asymptotic 95% Confidence Interval	
Rndm	Test Result Variable(s)	Area	Std. Error[a]	Asymptotic Sig.[b]	Lower Bound	Upper Bound
Group 1	Fall09TotMath	.896	.020	.000	.857	.935
	Wint10TotMath	.909	.018	.000	.875	.943
	Spr10TotMath	.930	.015	.000	.900	.959
Group 2	Fall09TotMath	.896	.019	.000	.859	.933
	Wint10TotMath	.886	.020	.000	.847	.924
	Spr10TotMath	.933	.014	.000	.906	.960

a. Under the nonparametric assumption
b. Null hypothesis: true area = 0.5
c. For split file Rndm = Group 1, the test result variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.
d. For split file Rndm = Group 2, the test result variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.



Diagonal segments are produced by ties.



Diagonal segments are produced by ties.

Grade 4
Fall Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
13	0	1	-	-
14	-	-	0	1
14.5	0.011	1	-	-
15.5	0.022	1	0.009	1
16.5	0.044	1	0.018	1
17.5	-	-	0.036	1
18	0.055	1	-	-
18.5	-	-	0.045	1
19.5	0.055	0.995	0.071	1
20.5	0.088	0.995	0.107	1
21.5	0.11	0.995	0.143	1
22.5	0.154	0.995	0.179	1
23.5	0.264	0.984	0.241	0.994
24.5	0.308	0.979	0.295	0.994
25.5	0.429	0.968	0.366	0.989
26.5	0.505	0.953	0.437	0.972
27.5	0.527	0.937	0.509	0.96
28.5	0.604	0.926	0.554	0.949
29.5	0.681	0.895	0.607	0.921
30.5	0.747	0.874	0.705	0.91
31.5	0.78	0.853	0.759	0.881
32.5	0.824	0.837	**0.812**	**0.836**
33.5	**0.857**	**0.8**	0.839	0.78
34.5	0.89	0.747	0.875	0.729
35.5	0.934	0.695	0.902	0.655
36.5	0.945	0.621	0.929	0.599
37.5	0.956	0.558	0.964	0.497
38.5	0.967	0.474	0.973	0.429
39.5	0.978	0.384	0.991	0.339
40.5	0.989	0.268	0.991	0.26
41.5	0.989	0.174	0.991	0.181
42.5	0.989	0.111	0.991	0.119
43.5	1	0.063	1	0.045
44.5	1	0.021	1	0.011
46	1	0	1	0

Grade 4
Winter Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
16	0	1	0	1
17.5	0.011	1	0.009	1
18.5	0.022	1	0.036	1
19.5	0.033	1		
20.5	0.055	1	0.045	1
21.5	0.066	1		
22.5	0.11	1	0.054	1
23.5	0.132	1	0.08	1
24.5	0.198	0.995	0.098	1
25.5	0.231	0.989	0.134	1
26.5	0.286	0.979	0.161	0.994
27.5	0.297	0.974	0.223	0.994
28.5	0.33	0.974	0.312	0.994
29.5	0.462	0.968	0.348	0.983
30.5	0.549	0.947	0.393	0.949
31.5	0.637	0.947	0.5	0.932
32.5	0.67	0.926	0.562	0.921
33.5	0.78	0.884	0.625	0.893
34.5	**0.813**	**0.863**	0.723	0.847
35.5	0.868	0.795	**0.812**	**0.808**
36.5	0.89	0.726	0.902	0.768
37.5	0.912	0.653	0.911	0.695
38.5	0.967	0.584	0.946	0.61
39.5	0.978	0.479	0.964	0.48
40.5	1	0.416	0.973	0.367
41.5	1	0.289	0.991	0.288
42.5	1	0.163	0.991	0.203
43.5	1	0.105	1	0.119
44.5	1	0.042	1	0.04
46	1	0	1	0

Grade 4
Spring Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
9	-	-	0	1
12	0	1	-	-
13.5	-	-	0.009	1
14	0.011	1	-	-
15.5	0.022	1	-	-
18	-	-	0.018	1
18.5	0.033	1	-	-
19.5	-	-	0.027	1
20.5	-	-	0.036	1
21.5	0.055	1	0.062	1
22.5	0.077	1	0.071	1
23.5	0.088	1	0.08	1
24.5	0.099	1	0.089	1
25.5	0.143	1	0.116	1
26.5	0.154	1	0.161	0.994
27.5	0.231	1	0.17	0.994
28.5	0.253	1	0.232	0.994
29.5	0.297	1	0.286	0.983
30.5	0.319	0.995	0.348	0.983
31.5	0.385	0.989	0.411	0.972
32.5	0.44	0.974	0.473	0.96
33.5	0.527	0.974	0.571	0.96
34.5	0.604	0.958	0.643	0.949
35.5	0.703	0.947	0.696	0.915
36.5	0.747	0.926	0.75	0.91
37.5	0.824	0.879	0.821	0.881
38.5	**0.868**	**0.811**	**0.866**	**0.831**
39.5	0.901	0.758	0.955	0.763
40.5	0.956	0.695	0.982	0.684
41.5	0.978	0.584	1	0.605
42.5	0.989	0.458	1	0.486
43.5	1	0.305	1	0.26
44.5	1	0.126	1	0.13
46	1	0	1	0

Grade 5

Case Processing Summary[b]

Rndm	PLC	Valid N (listwise)
Group 1	Positive[a]	188
	Negative	99
	Missing	657
Group 2	Positive[a]	205
	Negative	115
	Missing	632

Larger values of the test result variable(s) indicate stronger evidence for a positive actual state.

a. The positive actual state is 1.

b. For split file Rndm = Group 2, the test variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group.

Area Under the Curve[c,d]

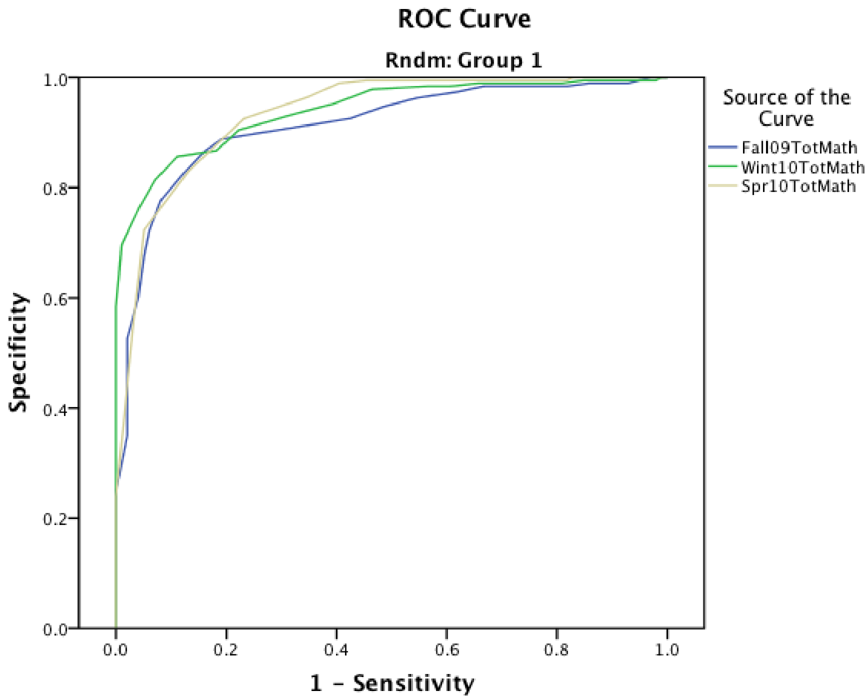
					Asymptotic 95% Confidence Interval	
Rndm	Test Result Variable(s)	Area	Std. Error[a]	Asymptotic Sig.[b]	Lower Bound	Upper Bound
Group 1	Fall09TotMath	.912	.018	.000	.877	.946
	Wint10TotMath	.940	.013	.000	.915	.965
	Spr10TotMath	.934	.015	.000	.904	.963
Group 2	Fall09TotMath	.899	.017	.000	.866	.932
	Wint10TotMath	.928	.014	.000	.899	.956
	Spr10TotMath	.914	.016	.000	.883	.946

a. Under the nonparametric assumption

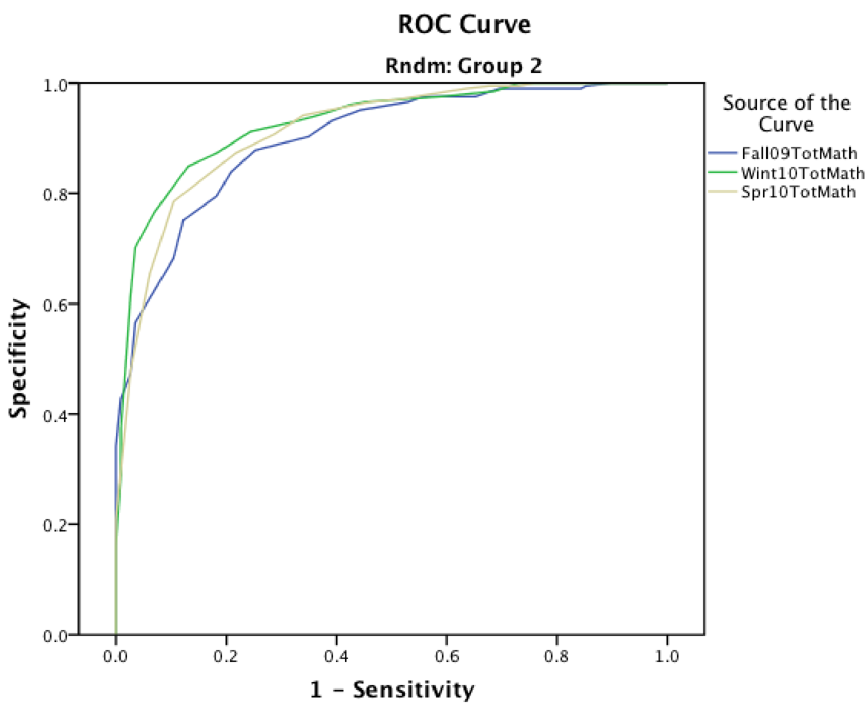
b. Null hypothesis: true area = 0.5

c. For split file Rndm = Group 1, the test result variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

d. For split file Rndm = Group 2, the test result variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.



Diagonal segments are produced by ties.



Diagonal segments are produced by ties.

Grade 5
Fall Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
13	-	-	0	1
14.5	-	-	0.009	1
15	0	1	-	-
15.5	-	-	0.026	1
16.5	0.02	1	0.07	1
17.5	0.03	1	0.087	1
18.5	0.051	0.995	0.104	1
19.5	0.071	0.989	0.148	0.995
20.5	0.141	0.989	0.157	0.99
21.5	0.182	0.984	0.191	0.99
22.5	0.232	0.984	0.226	0.99
23.5	0.283	0.984	0.304	0.99
24.5	0.333	0.984	0.348	0.976
25.5	0.384	0.973	0.443	0.976
26.5	0.455	0.963	0.47	0.966
27.5	0.515	0.947	0.557	0.951
28.5	0.576	0.926	0.609	0.932
29.5	0.707	0.904	0.652	0.902
30.5	0.808	0.888	0.748	0.878
31.5	0.838	0.867	0.791	0.839
32.5	**0.879**	**0.824**	0.817	0.795
33.5	0.919	0.777	**0.878**	**0.751**
34.5	0.939	0.723	0.896	0.683
35.5	0.949	0.676	0.93	0.624
36.5	0.96	0.601	0.965	0.566
37.5	0.98	0.527	0.974	0.473
38.5	0.98	0.436	0.991	0.429
39.5	0.98	0.351	1	0.341
40.5	1	0.25	1	0.283
41.5	1	0.197	1	0.224
42.5	1	0.112	1	0.146
43.5	1	0.059	1	0.098
44.5	1	0.032	1	0.044
46	1	0	1	0

Grade 5
Winter Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
13	0	1	-	-
15.5	0.01	1	-	-
17	-	-	0	1
17.5	0.02	0.995	-	-
18.5	0.03	0.995	0.009	1
19.5	-	-	0.026	1
20	0.051	0.995	-	-
20.5	-	-	0.035	1
21.5	0.101	0.995	0.052	1
22.5	0.111	0.995	0.113	1
23.5	0.152	0.995	0.191	1
24.5	0.192	0.989	0.226	1
25.5	0.253	0.989	0.243	1
26.5	0.303	0.989	0.27	1
27.5	0.313	0.989	0.313	0.985
28.5	0.343	0.989	0.409	0.976
29.5	0.394	0.984	0.478	0.971
30.5	0.434	0.984	0.548	0.966
31.5	0.535	0.979	0.574	0.961
32.5	0.606	0.952	0.617	0.946
33.5	0.687	0.931	0.67	0.932
34.5	0.778	0.904	0.757	0.912
35.5	0.818	0.867	0.817	0.873
36.5	**0.889**	**0.856**	**0.87**	**0.849**
37.5	0.929	0.814	0.93	0.766
38.5	0.96	0.761	0.965	0.702
39.5	0.99	0.697	0.974	0.615
40.5	1	0.585	0.983	0.493
41.5	1	0.457	0.991	0.376
42.5	1	0.33	0.991	0.293
43.5	1	0.191	1	0.161
44.5	1	0.08	1	0.073
46	1	0	1	0

Grade 5
Spring Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
16	0	1	-	-
17.5	0.01	1	-	-
18.5	0.02	1	-	-
19	-	-	0	1
19.5	0.03	1	-	-
21	0.051	1	0.009	1
22.5	0.091	1	0.052	1
23.5	0.101	1	-	-
24	-	-	0.087	1
24.5	0.131	1	-	-
25.5	0.172	1	-	-
26	-	-	0.113	1
26.5	0.182	0.995	-	-
27.5	0.212	0.995	0.148	1
28.5	0.222	0.995	0.157	1
29.5	0.253	0.995	0.183	1
30.5	0.263	0.995	0.2	1
31.5	0.283	0.995	0.226	1
32.5	0.323	0.995	0.243	1
33.5	0.374	0.995	0.27	0.995
34.5	0.434	0.995	0.322	0.995
35.5	0.485	0.995	0.365	0.99
36.5	0.505	0.995	0.487	0.971
37.5	0.545	0.995	0.539	0.966
38.5	0.596	0.989	0.661	0.941
39.5	0.657	0.963	0.713	0.907
40.5	0.768	0.926	0.783	0.873
41.5	**0.869**	**0.83**	**0.896**	**0.785**
42.5	0.949	0.723	0.939	0.654
43.5	0.97	0.543	0.974	0.478
44.5	1	0.239	1	0.21
46	1	0	1	0

Grade 6

Case Processing Summary[b]

Rndm	PLC	Valid N (listwise)
Group 1	Positive[a]	246
	Negative	136
	Missing	579
Group 2	Positive[a]	239
	Negative	131
	Missing	521

Larger values of the test result variable(s) indicate stronger evidence for a positive actual state.

a. The positive actual state is 1.

b. For split file Rndm = Group 2, the test variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group.

Area Under the Curve[c,d]

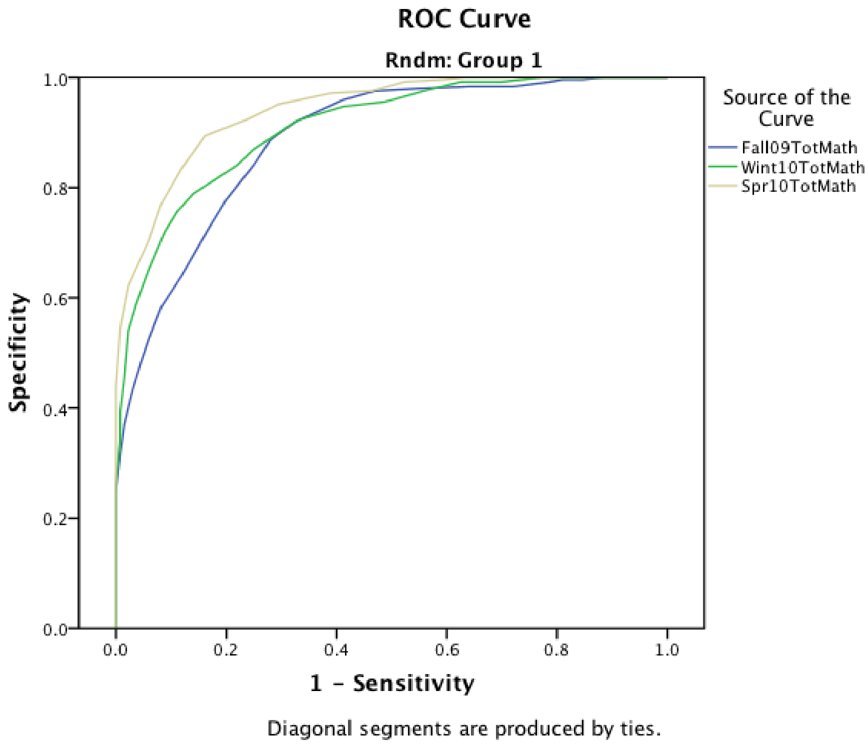
					Asymptotic 95% Confidence Interval	
Rndm	Test Result Variable(s)	Area	Std. Error[a]	Asymptotic Sig.[b]	Lower Bound	Upper Bound
Group 1	Fall09TotMath	.887	.017	.000	.853	.920
	Wint10TotMath	.909	.015	.000	.881	.938
	Spr10TotMath	.941	.011	.000	.919	.963
Group 2	Fall09TotMath	.914	.014	.000	.885	.942
	Wint10TotMath	.929	.013	.000	.903	.954
	Spr10TotMath	.940	.012	.000	.917	.962

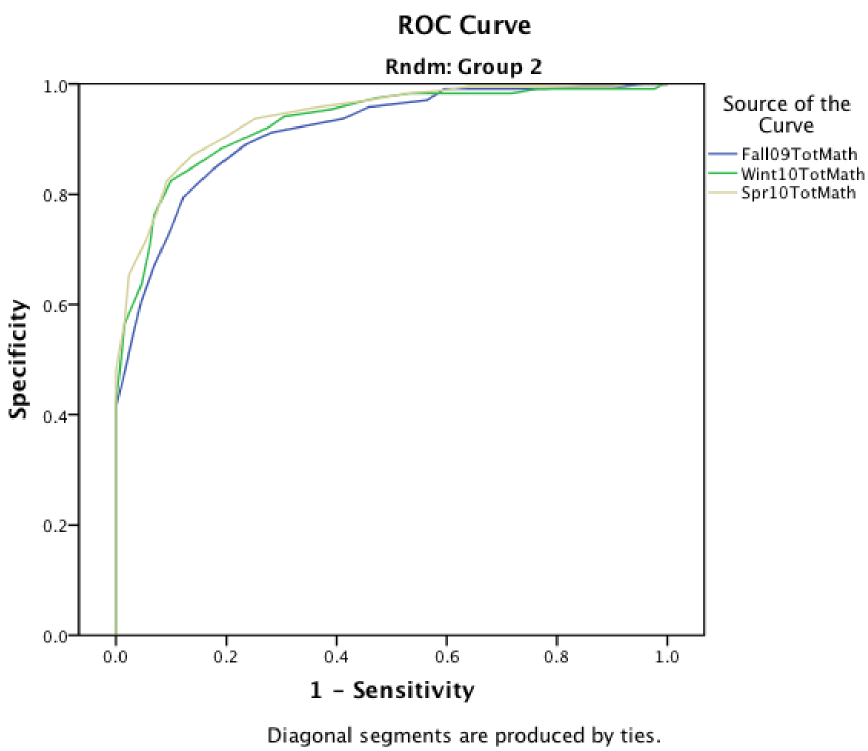
a. Under the nonparametric assumption

b. Null hypothesis: true area = 0.5

c. For split file Rndm = Group 1, the test result variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

d. For split file Rndm = Group 2, the test result variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.


ROC Curve
Rndm: Group 1
Specificity
1 - Sensitivity
Source of the Curve
Fall09TotMath
Wint10TotMath
Spr10TotMath
Diagonal segments are produced by ties.


ROC Curve
Rndm: Group 2
Specificity
1 - Sensitivity
Source of the Curve
Fall09TotMath
Wint10TotMath
Spr10TotMath
Diagonal segments are produced by ties.

Grade 6
Fall Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
11	-	-	0	1
13	0	1	-	-
13.5	-	-	0.008	1
14.5	0.015	1	-	-
15.5	0.022	1	0.023	1
16.5	0.059	1	0.031	1
17.5	0.088	1	0.046	1
18.5	0.118	1	0.084	0.996
19.5	0.154	0.996	0.115	0.996
20.5	0.191	0.996	0.153	0.996
21.5	0.213	0.992	0.221	0.992
22.5	0.279	0.984	0.298	0.992
23.5	0.36	0.984	0.405	0.992
24.5	0.456	0.98	0.435	0.971
25.5	0.529	0.976	0.542	0.958
26.5	0.588	0.959	0.588	0.937
27.5	0.676	0.919	0.718	0.912
28.5	0.721	0.886	0.763	0.891
29.5	0.75	0.841	**0.824**	**0.845**
30.5	0.801	0.776	0.878	0.795
31.5	**0.831**	**0.728**	0.901	0.736
32.5	0.882	0.638	0.931	0.669
33.5	0.919	0.581	0.954	0.607
34.5	0.941	0.524	0.969	0.544
35.5	0.956	0.48	0.985	0.477
36.5	0.971	0.431	1	0.414
37.5	0.985	0.37	1	0.36
38.5	0.993	0.317	1	0.31
39.5	1	0.248	1	0.259
40.5	1	0.207	1	0.213
41.5	1	0.159	1	0.159
42.5	1	0.122	1	0.113
43.5	1	0.085	1	0.071
44.5	1	0.057	1	0.021
46	1	0	1	0

Grade 6
Winter Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
12	-	-	0	1
14	0	1	0.008	1
15.5	0.007	1	0.015	0.996
16.5	0.022	1	0.023	0.992
17.5	0.037	1	0.046	0.992
18.5	0.059	1	0.061	0.992
19.5	0.074	1	0.076	0.992
20.5	0.088	1	0.137	0.992
21.5	0.125	1	0.16	0.992
22.5	0.169	1	0.198	0.992
23.5	0.228	1	0.237	0.992
24.5	0.301	0.992	0.282	0.983
25.5	0.375	0.992	0.351	0.983
26.5	0.441	0.976	0.466	0.983
27.5	0.515	0.955	0.527	0.975
28.5	0.588	0.947	0.611	0.954
29.5	0.669	0.923	0.695	0.941
30.5	0.75	0.87	0.725	0.921
31.5	0.779	0.841	0.809	0.883
32.5	0.86	0.789	0.847	0.858
33.5	0.89	0.756	**0.901**	**0.824**
34.5	**0.912**	**0.72**	0.931	0.762
35.5	0.941	0.65	0.939	0.707
36.5	0.963	0.589	0.954	0.636
37.5	0.978	0.541	0.985	0.565
38.5	0.985	0.455	0.992	0.49
39.5	0.993	0.394	1	0.423
40.5	0.993	0.341	1	0.318
41.5	1	0.264	1	0.238
42.5	1	0.191	1	0.167
43.5	1	0.118	1	0.084
44.5	1	0.045	1	0.042
46	1	0	1	0

Grade 6
Spring Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
11	0	1	-	-
12.5	0.015	1	-	-
13	-	-	0	1
13.5	0.029	1	-	-
15	-	-	0.008	1
15.5	0.037	1	-	-
16.5	-	-	0.023	1
17.5	0.044	1	0.038	1
18.5	-	-	0.046	1
19.5	0.051	1	0.069	1
20.5	-	-	0.076	1
21.5	0.059	1	-	-
22	-	-	0.099	0.996
22.5	0.088	1	-	-
23.5	0.125	1	0.13	0.996
24.5	0.154	1	0.137	0.996
25.5	0.199	1	0.16	0.996
26.5	0.213	1	0.183	0.996
27.5	0.243	1	0.237	0.996
28.5	0.309	1	0.275	0.996
29.5	0.368	1	0.359	0.996
30.5	0.404	0.996	0.42	0.987
31.5	0.478	0.992	0.473	0.983
32.5	0.537	0.976	0.542	0.971
33.5	0.61	0.972	0.634	0.958
34.5	0.706	0.951	0.748	0.937
35.5	0.765	0.923	0.802	0.904
36.5	0.838	0.894	0.863	0.87
37.5	**0.882**	**0.833**	**0.908**	**0.824**
38.5	0.919	0.768	0.924	0.774
39.5	0.941	0.703	0.947	0.715
40.5	0.978	0.622	0.977	0.653
41.5	0.993	0.545	0.985	0.569
42.5	1	0.439	1	0.481
43.5	1	0.26	1	0.351
44.5	1	0.114	1	0.134
46	1	0	1	0

Grade 7

Case Processing Summary[b]

Rndm	PLC	Valid N (listwise)
Group 1	Positive[a]	216
	Negative	105
	Missing	583
Group 2	Positive[a]	220
	Negative	125
	Missing	581

Larger values of the test result variable(s) indicate stronger evidence for a positive actual state.

a. The positive actual state is 1.

b. For split file Rndm = Group 2, the test variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group.

Area Under the Curve[c,d]

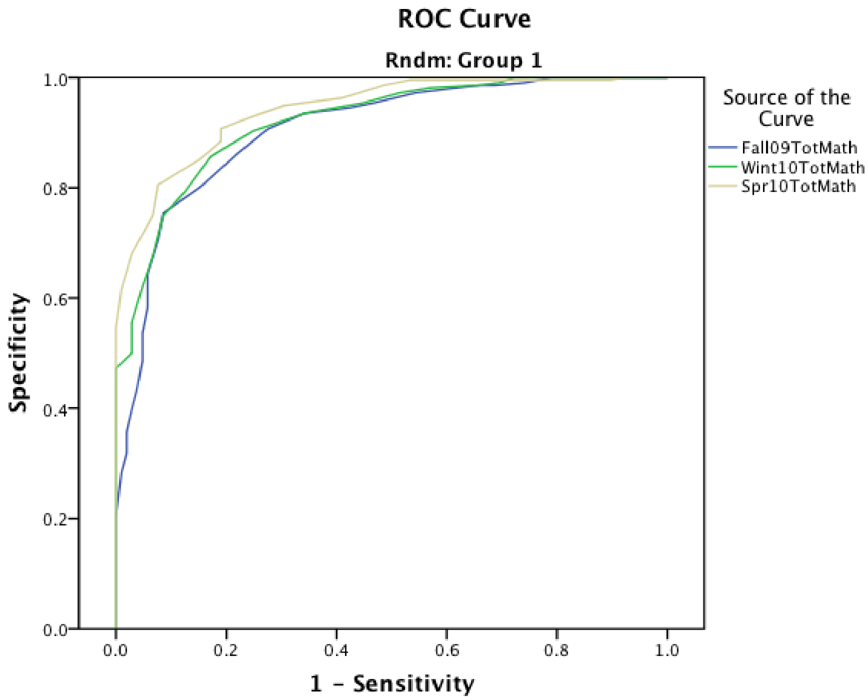
Rndm	Test Result Variable(s)	Area	Std. Error[a]	Asymptotic Sig.[b]	Asymptotic 95% Confidence Interval	
					Lower Bound	Upper Bound
Group 1	Fall09TotMath	.905	.018	.000	.870	.940
	Wint10TotMath	.920	.015	.000	.890	.949
	Spr10TotMath	.941	.012	.000	.918	.965
Group 2	Fall09TotMath	.892	.017	.000	.858	.926
	Wint10TotMath	.894	.017	.000	.862	.927
	Spr10TotMath	.912	.015	.000	.882	.943

a. Under the nonparametric assumption

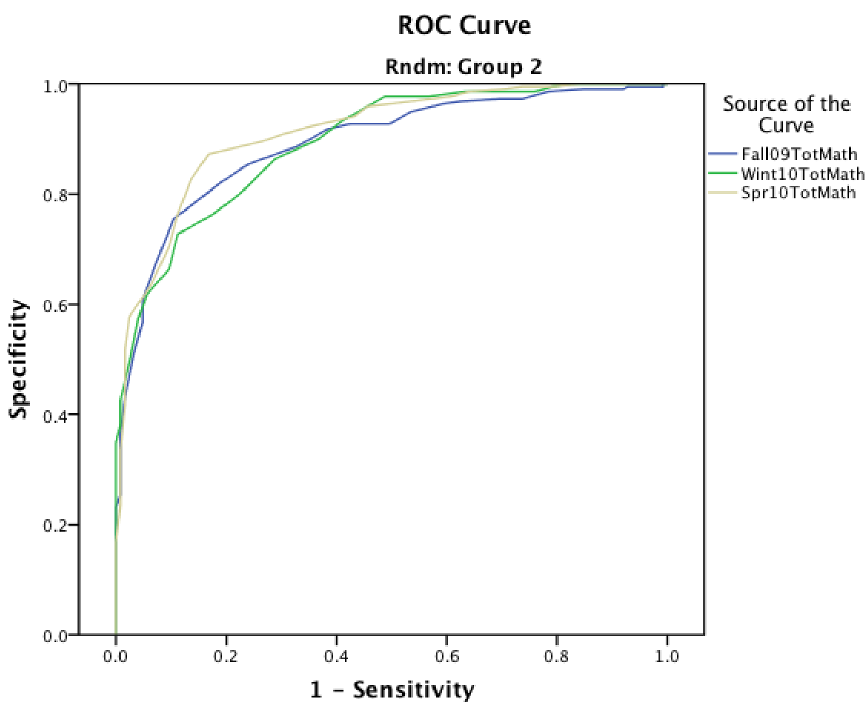
b. Null hypothesis: true area = 0.5

c. For split file Rndm = Group 1, the test result variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

d. For split file Rndm = Group 2, the test result variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.



Diagonal segments are produced by ties.



Diagonal segments are produced by ties.

Grade 7
Fall Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
8	0	1	-	-
9	-	-	0	1
10	0.01	1	-	-
11	-	-	0.008	1
11.5	0.038	1	-	-
12.5	0.048	1	0.008	0.995
13.5	-	-	0.04	0.995
14	0.057	1	-	-
14.5	-	-	0.072	0.995
15.5	0.086	1	0.08	0.991
16.5	0.105	1	0.136	0.991
17.5	0.162	1	0.152	0.991
18.5	0.21	1	0.216	0.986
19.5	0.257	0.991	0.264	0.973
20.5	0.314	0.986	0.304	0.973
21.5	0.343	0.986	0.376	0.968
22.5	0.457	0.972	0.408	0.964
23.5	0.533	0.954	0.464	0.95
24.5	0.581	0.944	0.504	0.927
25.5	0.657	0.935	0.576	0.927
26.5	0.724	0.907	0.616	0.918
27.5	0.781	0.861	0.672	0.886
28.5	**0.848**	**0.801**	0.76	0.855
29.5	0.914	0.755	**0.808**	**0.823**
30.5	0.924	0.704	0.896	0.755
31.5	0.943	0.644	0.928	0.673
32.5	0.943	0.583	0.952	0.609
33.5	0.952	0.537	0.952	0.568
34.5	0.952	0.486	0.968	0.509
35.5	0.962	0.435	0.984	0.432
36.5	0.971	0.398	0.992	0.368
37.5	0.981	0.356	0.992	0.314
38.5	0.981	0.319	0.992	0.255
39.5	0.99	0.282	1	0.232
40.5	1	0.204	1	0.205
41.5	1	0.167	1	0.141
42.5	1	0.106	1	0.109
43.5	1	0.074	1	0.073
44.5	1	0.042	1	0.023
46	1	0	1	0

Grade 7
Winter Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
10	0	1	0	1
11.5	0.01	1	0.008	1
12.5	0.038	1	0.024	1
13.5	-	-	0.032	1
14	0.057	1	-	-
14.5	-	-	0.048	1
15.5	0.105	1	0.072	1
16.5	0.124	1	0.104	1
17.5	0.162	1	0.176	1
18.5	0.2	1	0.208	0.995
19.5	0.229	1	0.24	0.986
20.5	0.276	1	0.304	0.986
21.5	0.305	0.991	0.368	0.986
22.5	0.343	0.986	0.432	0.977
23.5	0.429	0.981	0.512	0.977
24.5	0.486	0.972	0.576	0.941
25.5	0.552	0.954	0.592	0.932
26.5	0.657	0.935	0.632	0.9
27.5	0.752	0.903	0.712	0.864
28.5	**0.829**	**0.856**	0.776	0.8
29.5	0.876	0.792	0.824	0.764
30.5	0.914	0.75	**0.888**	**0.727**
31.5	0.933	0.676	0.904	0.664
32.5	0.952	0.62	0.944	0.618
33.5	0.971	0.556	0.96	0.573
34.5	0.971	0.5	0.976	0.495
35.5	1	0.472	0.992	0.427
36.5	1	0.431	0.992	0.382
37.5	1	0.394	1	0.35
38.5	1	0.329	1	0.323
39.5	1	0.292	1	0.286
40.5	1	0.231	1	0.25
41.5	1	0.185	1	0.195
42.5	1	0.116	1	0.159
43.5	1	0.069	1	0.082
44.5	1	0.042	1	0.027
46	1	0	1	0

Grade 7
Spring Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
11	-	-	0	1
12	0	1	-	-
12.5	-	-	0.008	1
13.5	0.01	1	0.024	1
14.5	0.038	1	0.032	1
15.5	0.057	1	0.048	1
16.5	0.076	1	0.064	1
17.5	-	-	0.088	1
18	0.105	0.995	0.136	1
19.5	0.152	0.995	0.16	1
20.5	0.181	0.995	0.208	0.995
21.5	0.219	0.995	0.232	0.995
22.5	0.238	0.995	0.264	0.995
23.5	0.286	0.995	0.296	0.991
24.5	0.333	0.995	0.36	0.986
25.5	0.4	0.995	0.392	0.977
26.5	0.467	0.995	0.504	0.964
27.5	0.514	0.986	0.544	0.959
28.5	0.59	0.963	0.568	0.941
29.5	0.695	0.949	0.648	0.923
30.5	0.762	0.926	0.696	0.909
31.5	0.81	0.907	0.736	0.895
32.5	0.81	0.884	0.832	0.873
33.5	0.848	0.852	**0.864**	**0.827**
34.5	**0.924**	**0.806**	0.888	0.764
35.5	0.933	0.75	0.904	0.705
36.5	0.971	0.681	0.936	0.636
37.5	0.99	0.616	0.976	0.577
38.5	1	0.546	0.984	0.518
39.5	1	0.468	0.984	0.418
40.5	1	0.412	0.992	0.336
41.5	1	0.301	0.992	0.236
42.5	1	0.199	1	0.168
43.5	1	0.111	1	0.123
44.5	1	0.046	1	0.045
46	1	0	1	0

Grade 8

Case Processing Summary[b]

Rndm	PLC	Valid N (listwise)
Group 1	Positive[a]	142
	Negative	59
	Missing	1047
Group 2	Positive[a]	159
	Negative	57
	Missing	997

Larger values of the test result variable(s) indicate stronger evidence for a positive actual state.

a. The positive actual state is 1.

b. For split file Rndm = Group 2, the test variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group.

Area Under the Curve[c,d]

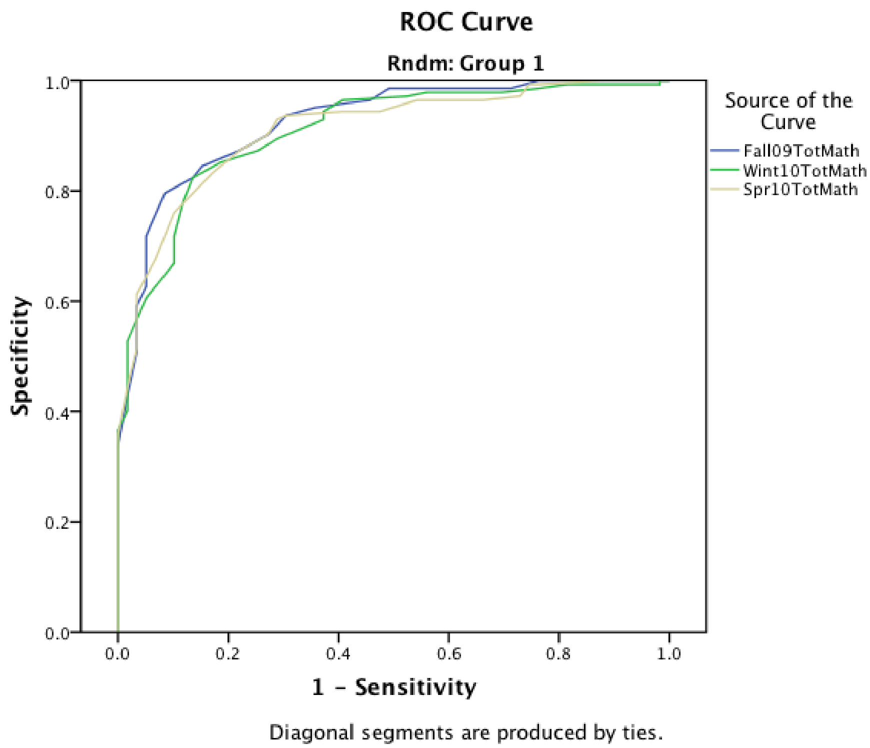
					Asymptotic 95% Confidence Interval	
Rndm	Test Result Variable(s)	Area	Std. Error[a]	Asymptotic Sig.[b]	Lower Bound	Upper Bound
Group 1	Fall09TotMath	.924	.020	.000	.885	.962
	Wint10TotMath	.908	.022	.000	.866	.950
	Spr10TotMath	.910	.021	.000	.868	.951
Group 2	Fall09TotMath	.922	.018	.000	.887	.957
	Wint10TotMath	.926	.019	.000	.890	.963
	Spr10TotMath	.919	.020	.000	.880	.958

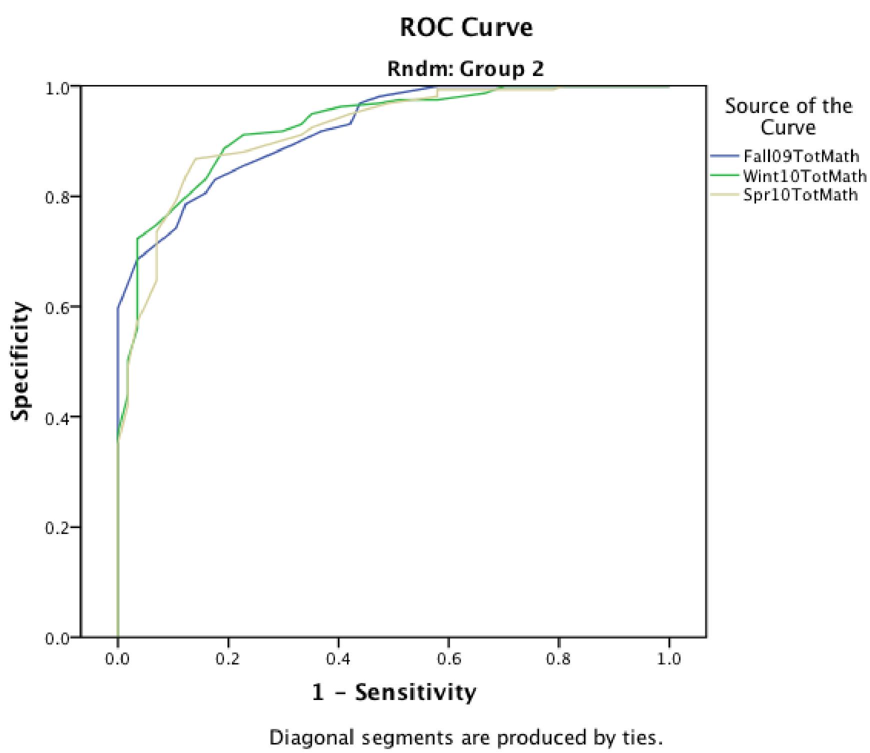
a. Under the nonparametric assumption

b. Null hypothesis: true area = 0.5

c. For split file Rndm = Group 1, the test result variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

d. For split file Rndm = Group 2, the test result variable(s): Fall09TotMath, Wint10TotMath, Spr10TotMath has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.


ROC Curve
Rndm: Group 1
Specificity
1 - Sensitivity
Source of the Curve
Fall09TotMath
Wint10TotMath
Spr10TotMath
0.0
0.2
0.4
0.6
0.8
1.0
Diagonal segments are produced by ties.


ROC Curve
Rndm: Group 2
Specificity
1 - Sensitivity
Source of the Curve
Fall09TotMath
Wint10TotMath
Spr10TotMath
0.0
0.2
0.4
0.6
0.8
1.0
Diagonal segments are produced by ties.

Grade 8
Fall Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
10	0	1	-	-
12	0.017	1	0	1
13.5	-	-	0.018	1
14.5	-	-	0.035	1
15	0.051	1	-	-
15.5	-	-	0.07	1
16.5	-	-	0.105	1
17.5	0.085	1	0.123	1
18.5	0.102	1	0.193	1
19.5	0.186	1	0.228	1
20.5	0.237	1	0.316	1
21.5	0.288	0.986	0.421	1
22.5	0.407	0.986	0.491	0.987
23.5	0.492	0.986	0.526	0.981
24.5	0.508	0.986	0.561	0.969
25.5	0.542	0.965	0.579	0.931
26.5	0.644	0.951	0.632	0.918
27.5	0.695	0.937	0.684	0.893
28.5	0.729	0.901	0.772	0.855
29.5	0.78	0.873	0.825	0.83
30.5	0.847	0.845	**0.842**	**0.805**
31.5	**0.864**	**0.824**	0.877	0.786
32.5	0.915	0.796	0.895	0.742
33.5	0.949	0.718	0.965	0.686
34.5	0.949	0.627	1	0.597
35.5	0.966	0.592	1	0.535
36.5	0.966	0.563	1	0.491
37.5	0.966	0.507	1	0.434
38.5	0.983	0.43	1	0.371
39.5	1	0.338	1	0.314
40.5	1	0.303	1	0.239
41.5	1	0.218	1	0.214
42.5	1	0.155	1	0.151
43.5	1	0.099	1	0.101
44.5	1	0.049	1	0.057
46	1	0	1	0

Grade 8
Winter Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
9	-	-	0	1
11	-	-	0.018	1
12	0	1	-	-
13.5	0.017	1	0.035	1
15	0.017	0.993	-	-
15.5	-	-	0.053	1
16.5	-	-	0.07	1
17	0.034	0.993	-	-
17.5	-	-	0.123	1
18.5	0.102	0.993	0.158	1
19.5	0.169	0.993	0.211	1
20.5	0.186	0.993	0.263	1
21.5	0.237	0.986	0.281	1
22.5	0.305	0.979	0.298	1
23.5	-	-	0.333	0.987
24.5	0.339	0.979	0.421	0.975
25.5	-	-	0.491	0.975
26.5	0.441	0.979	0.526	0.969
27.5	0.475	0.972	0.596	0.962
28.5	0.593	0.965	0.649	0.95
29.5	0.627	0.944	0.667	0.931
30.5	0.627	0.93	0.702	0.918
31.5	0.712	0.894	0.772	0.912
32.5	0.746	0.873	0.807	0.887
33.5	0.814	0.852	**0.842**	**0.83**
34.5	**0.864**	**0.824**	0.877	0.799
35.5	0.881	0.782	0.93	0.748
36.5	0.898	0.718	0.965	0.723
37.5	0.898	0.669	0.965	0.642
38.5	0.949	0.606	0.965	0.56
39.5	0.983	0.528	0.982	0.503
40.5	0.983	0.401	0.982	0.44
41.5	1	0.366	1	0.371
42.5	1	0.239	1	0.264
43.5	1	0.148	1	0.164
44.5	1	0.056	1	0.038
46	1	0	1	0

Grade 8
Spring Benchmark

Cut Score	Group 1		Group 2	
	Sensitivity	Specificity	Sensitivity	Specificity
10	-	-	0	1
11.5	-	-	0.018	1
12	0	1	-	-
12.5	-	-	0.035	1
13.5	-	-	0.053	1
14	0.017	1	-	-
15	-	-	0.088	1
16.5	0.034	1	0.105	1
18	-	-	0.14	1
18.5	0.068	1	-	-
19.5	0.085	1	0.193	1
20.5	0.102	1	0.211	0.994
21.5	0.119	1	0.298	0.994
22.5	0.237	0.993	0.316	0.994
23.5	0.254	0.993	0.368	0.994
24.5	0.271	0.972	0.421	0.994
25.5	0.339	0.965	0.421	0.981
26.5	0.39	0.965	0.509	0.969
27.5	0.458	0.965	0.579	0.95
28.5	0.525	0.944	0.632	0.931
29.5	0.593	0.944	0.649	0.925
30.5	0.695	0.937	0.667	0.912
31.5	0.712	0.93	0.772	0.881
32.5	0.729	0.901	0.86	0.868
33.5	0.78	0.873	**0.877**	**0.836**
34.5	**0.831**	**0.831**	0.895	0.792
35.5	0.898	0.761	0.93	0.736
36.5	0.932	0.676	0.93	0.648
37.5	0.966	0.613	0.965	0.572
38.5	0.966	0.514	0.982	0.491
39.5	0.983	0.444	0.982	0.421
40.5	1	0.359	1	0.352
41.5	1	0.296	1	0.283
42.5	1	0.197	1	0.201
43.5	1	0.106	1	0.094
44.5	1	0.056	1	0.031
46	1	0	1	0